

# 1. In Down's syndrome, 2nd trimester quadruple test includes all EXCEPT:

a) Alpha fetoprotein

b) HCG

c) Inhibin A

d) PAPP

Correct Answer - D

PAPP REF: Fernando arias 3<sup>rd</sup> e p. 44-45

The triple test measures the following three levels in the maternal serum:

1. Alpha-fetoprotein (AFP)
2. Human chorionic gonadotropin (hCG)
3. Unconjugated estriol (UE3)

The levels may indicate increased risk for certain conditions:

AFP UE3 hCG Associated conditions

low low high Down Syndrome

low low low trisomy 18 (Edward's syndrome)

neural tube defects like spina bifida associated with increased levels of

high n/a n/a acetylcholinesterase in amniotic fluid, or omphalocele, or gastroschisis, or multiple gestation like twins or triplets

Furthermore, the triple test may be combined with an ultrasound measurement of nuchal translucency.

The Triple test measures serum levels of AFP, estriol, and beta-hCG, with a 70% sensitivity and 5% false-positive rate. It is complemented in some regions of the United States as the Quad

complemented in some regions of the United States, as the Quad test (adding inhibin A to the panel, resulting in 81% sensitivity and 5% false-positive rate for detecting Down syndrome)

Down's syndrome	1st trimester	2nd trimester
Screening test	Nuchal translucency + beta HCG + PAPP i.e combined test	<ul style="list-style-type: none"><li>• Triple test (HCG + AFP +UE3)</li><li>• Quadruple test ( triple test + inhibin A)</li></ul>
Diagnostic test	CVS	Amniocentesis

## 2. Which of the following is seen in the ovulatory phase:

a) Stimulation of continuation of reduction division of oocytes

b) Inhibin A is increased

c) FSH increases steroid synthesis in granulosa cells

d) Activin causes FSH to act on granulosa cells

Correct Answer - A

Stimulation of continuation of reduction division of oocytes *Ref: Speroff Clinical Gynecologic Endocrinology & Infertility, 7/e chapter 6; Guyton 11/e p1012*

The ovarian cycle can be divided into three phases: the follicular phase, ovulation, and the luteal phase.

The ovarian cycle depends completely on the gonadotropic hormones FSH and LH, secreted by the anterior pituitary gland. During each cycle there is a cyclical increase and decrease of both FSH and LH, as shown in the figure which causes cyclical ovarian changes.

The ovaries in a newborn child contain lakhs of primordial follicles (approx 10 to 20 lakhs at the time of birth and no new primordial follicle is formed after birth).

Each primordial follicle consists of an oocyte (primary oocyte), surrounded by a *single layer of granulosa cells*. The primary oocyte in primordial follicle is arrested in the *diplotene stage of meiotic prophase (of the first meiotic division)*.

### **Brief review of Oogenesis:**

Each primary oocyte has a diploid set of chromosomes and must undergo 2 Meiotic divisions: Meiosis I and Meiosis II to give rise to an Ovum with a haploid set of chromosomes, necessary for

fertilization.

Primary Oocyte —(*Meiosis I*) —) First Polar Body (Discarded afterward) + Secondary oocyte — (*Meiosis II*) Secondary Polar Body (Discarded afterward) + Ovum

Follicular phase

- After puberty, in each cycle, when FSH and LH from the anterior pituitary begin to be secreted in significant amount. some of the primordial follicles (approx 6 to 12 in each cycle) begin to grow.
- In earliest stage of follicular phase the primary oocyte grows in size. The single layer of granulosa cells grow to form additional layers. These follicles are known as primary follicles.
- During the first few days of each monthly female cycle the concentration of both FSH and LH increase slightly to moderately, with the increase in FSH slightly greater than that of LH and preceding it by a few days. These hormones especially FSH, cause accelerated growth of 6 to 12 primary follicles each month. Initially there is rapid proliferation of the granulosa cells giving rise to additional layers. In addition cells derived from the ovarian interstitium collect in several layers outside the granulosa cells, giving rise to a second mass of cells- theca. Theca is divided into 2 layers: *theca interna* which have the ability of secrete additional steroid sex hormones similar to the granulosa cells and *theca externa* which forms the capsule of the developing follicle.
- After the early proliferative phase of growth, lasting for a few days, the mass of granulosa cells secretes follicular fluid that contains a high concentration of estrogens. Accumulation of this fluid causes an *antrum* to appear within the mass of granulosa cells.
- FSH acts on the granulosa cells to cause secretion of estrogens. This estrogen in turn causes the granulosa cells to form increasing numbers of FSH receptors; this causes a positive feedback effect, making the granulosa cells more sensitive to FSH.
- The early growth of the primary follicle up to the antral stage is stimulated mainly by FSH alone. Then greatly accelerated growth occurs, leading to still larger follicles called vesicular follicles. This accelerated growth is caused by
  - positive feedback effect of the estrogens
  - FSH and estrogens combine to promote LH receptors on the granulosa cells, thus allowing LH stimulation to occur in addition to

granulosa cells, thus allowing LH stimulation to occur in addition to FSH stimulation and creating an even more rapid increase in the follicular secretion.

- After the early growth in the follicular phase, one of the follicle begins to outgrow other growing follicle and dominant follicle. The remaining 5 to 11 developing follicles undergo atresia. This ensures that only one follicle ruptures to liberate only one ovum for fertilization.

#### Ovulation

- Just before ovulation, certain changes occur which are necessary for the ovulation.
- About 2 days before ovulation, the rate of secretion of LH by the anterior pituitary gland is markedly increased rising 6 to 10 folds and peaking about 16 hrs before ovulation (LH surge). FSH also increases about 2 to 3 folds at the same time and both FSH and LH act synergistically to cause rapid increase in the follicle size.
- The LH acts on the theca and the granulosa cells converting them mainly to progesterone-secreting cells. Thus the estrogen level begins to fall about 1 day before ovulation, while progesterone level increases. Progesterone enhances the activity of proteolytic enzymes responsible, together with prostaglandins, for digestion and rupture of the follicular wall leading to ovulation.

#### Luteal phase

- After expulsion of the ovum from the follicle, the remaining granulosa and theca interna cells change rapidly into lutein cells, under the influence of LH. Total mass of the remaining follicle is now termed corpus luteum.
- The granulosa cells secrete large amounts of female sex hormone (more progesterone than estrogens). The theca cells secrete mainly the androgens rather than the female sex hormones, but these androgens are converted by the granulosa cells into the female hormones.
- Estrogens in particular and progesterone to a lesser extent, secreted by the corpus luteum have a strong feedback effect on the anterior pituitary gland to decrease secretions of both LH and FSH.
- In addition the lutein cells secrete another hormone Inhibin A. This hormone inhibits secretion of FSH by the anterior pituitary gland. Decreasing blood concentrations of both FSH and LH result in

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degeneration of the corpus luteum.

- Involution of corpus luteum results in sudden cessation of secretion of estrogen, progesterone, and inhibin A. This removes the inhibitory feedback on the anterior pituitary gland, allowing it to begin the secretion of FSH and LH again which initiate the growth of new group of follicles, thus beginning a new ovarian cycle. The paucity of secretion of progesterone and estrogens by the corpus luteum leads to menstruation by the uterus.

In the background of the ovarian cycle now let's see the options given in the question.

Continuation of reduction division (meiosis) occurs in the ovulatory phase

As already discussed, the primary oocyte is arrested in the prophase stage of meiosis I. Just before ovulation, the LH surge initiates the continuation of meiosis, giving rise to secondary oocyte and a polar body. The secondary oocyte

enters meiosis II but gets arrested in metaphase approx. 3 hrs before ovulation. It is the secondary oocyte which is released at the time of ovulation. Meiosis II is completed only if the oocyte is fertilized by a sperm, otherwise the cell degenerates.

Inhibin A is increased in the Luteal phase

There are 2 forms of inhibin: Inhibin A and Inhibin B

Inhibin B is predominantly secreted by the granulosa cells in the follicular phase of the ovarian cycle.

Inhibin A secretions begin to rise in the late follicular phase and reach a peak level in the midluteal phase. Inhibin-A, causes suppression of FSH levels during the luteal phase, which contribute to transition from luteal to follicular phase (of the next cycle).

The role of Inhibin B is in securing the dominance of the dominant follicle and leading to atresia of the other growing follicles.

FSH increases steroid synthesis in granulosa cells

FSH acts on the granulosa cells to cause production of female sex hormones- both estrogens and progesterone. Although production of these steroids are seen in all 3 phases of the ovarian cycle; it occurs mainly in the follicular phase.

Activin causes FSH to act on the granulosa cells

Activin is one of the peptides secreted by granulosa cells under the

influence of FSH. Activin in turn augments FSH action on the granulosa cells and also increases FSH release from the pituitary. Thus it has a positive feedback effect. Role of activin is mainly seen in the follicular phase.

### 3. 36 weeks pregnant diabetic female with NST non reactive. What should be done next -

a) >Induction of labour

b) >CS

c) >Do NST after 1hr

d) >Proceed to biophysical profile

Correct Answer - D

Proceed to biophysical profile [Ref: Renu Mishra Practical obstetric problem 6/e p. 469, 4701

Non stress test

- *Non stress test is based on the principle that well oxygenated fetus responds to spontaneous or induced movement with fetal heart accelerations.*
  - *This indirectly indicates a normally functioning autonomic nervous system and excludes cellular hypoxia.*
  - *The test is considered reactive or normal when the baseline fetal heart rate is between 110 and 160 beats/minute and there are at least two accelerations of 15 or more beats lasting at least 15 seconds.*
- *If these criteria are not met in 20 minutes the recording time is extended to 40 minutes and the test is called extended NST*
- *If the criteria are still unmet, the test is reported as non-reactive and a backup test like biophysical profile should be performed.*
  - *The positive and negative predictive values of a nonstress test are typically less than 50% and more than 90% respectively.*
  - *In simple words, this means that a reactive nonstress test is more reliable in excluding fetal hypoxia than a nonreactive test in*

*predicting fetal compromise.*

- *However, no abnormal test should be ignored and all abnormal tests should be followed up with a second line test such as biophysical profile before planning any intervention.*

*Also know*

- *Fetal heart rate patterns that have been found to be consistent with fetal hypoxia and acidosis are.*
  - *A relatively fixed baseline heart rate with poor baseline variability.*
  - *Loss of accelerations and*
  - *Spontaneous fetal heart decelerations*

## 4. Which can be used in pregnancy?

a) ACE inhibitors

b) Aldosterone

c) AT receptor antagonist

d) Propylthiouracil

Correct Answer - D

Propylthiouracil [Ref: K.D.T. 6/e. 251, 484, 488; Progress in obs & Gynae 18/e p. 52, 53, 54 (Studds)]

- Propylthiouracil is the drug of choice for hyperthyroidism during pregnancy.
- Antithyroid drugs in pregnancy
- Propylthiouracil and methimazole are both antithyroid drugs that cross the placenta and can lead to fetal goiter.
- Methimazole has been associated with "cutis aplasia".
- Scalp defects cloanal atresia esophageal atresia and increased maternal side effects.
- Because both medications are equally effective the drug of choice for hyperthyroidism in pregnancy is propylthiouracil.
- Propylthiouracil is not available throughout the world and in those conditions methimazole may be substituted. Antihypertensives in pregnancy
- Angiotensin converting enzyme inhibitor (ACE inhibitor) e.g., Enalapril, captopril can cause fetal renal tubular dysplasia in the second and third trimesters leading to oligohydramnios fetal limb contractures, craniofacial deformities and hypoplastic lung development.
- A recent large cohort study found an increased risk of congenital malformations with isolated first trimester exposure to ACE

*inhibitors.*

- *Infants exposed in utero to ACE inhibitors were at increased risk of cardiovascular and CNS malformations.*
- *Angiotensin II receptor antagonists have been shown to have second and third trimester findings consistent with ACE inhibitors and are not recommended in pregnancy.*

Aldosterone

- *We have not got any literature on the use of Aldosterone during pregnancy.*
- *We are not sure of its use during pregnancy.*

## 5. After a full term normal delivery patient went into shock. Most probable cause is -

a) Inversion of uterus

b) PPH

c) Amniotic fluid embolism

d) Eclapsia

Correct Answer - A

Inversion of uterus ?? 'c' i.e., Amniotic fluid embolism [Ref: *Munroken's operative obstetrics 10/e p 69, 476; Ian Donald, Renu Mishra 6/e p 626-630*]

- *The patient went into unexplained shock after postpartum.*
  - *Both uterine inversion and amniotic fluid embolism can cause unexplained shock.*
  - *Uterine inversion is more common and important cause of unexplained shock than amniotic fluid embolism.*
- Munroken's operative obstetrics says
- *"In all cases of unexplained shock after delivery make a careful vaginal examination to exclude the possibility of occult rupture of the uterus, partial uterine inversion or pelvic hematoma".*

Munroken further adds

Uterine inversion is the most important cause of unexplained shock

Three degrees of inversion are generally described.

- Where the inverted fundus reaches the internal os
- Where the whole body of the uterus is inverted upto the internal os.
- Where uterus, cervix and vagina are completely inverted

Symptoms of uterine inversion

- *Symptoms of uterine inversion are not always well defined.*
- *If however the inversion occurs quickly or is of severe degree there is a feeling of something coming down and pain followed by collapse and hemorrhage of variable severity.*
- *When the inversion is of lesser degree and is contained within the vagina or when the fundus does not come beyond the os externum, only pain and hemorrhage may be present.*
- *Inversion is also the most important cause of unexplained shock*
  - *In these cases the shock is not primarily due to loss of blood or trauma but is really of neurogenic origin.*
  - *In this connection it has been suggested by several authors that as one or both ovaries may be pulled into the invagination, pressure on them may be responsible for shock.*
  - *The traction on the infundibulopelvic ligaments, peritoneum and broad ligaments stimulate the "parasympathetic system" producing shock.*

Amniotic fluid embolism may also cause unexplained shock

-Amniotic fluid embolism is brought about by the uterine contractions forcing the liquor amni with its contained particles of meconium, lanugo, and vernix caseosa into a patent uterine sinus from where it is carried into the lungs. - We have opted for uterine inversion as it is the more common cause for unexplained shock.

Postpartum collapse from Ian Donald 6/e edited by Renu Mishra

- *Postpartum maternal collapse is serious obstetric complication*
- *Majority of these cases occur as hemorrhage that is revealed.*
- *But a small minority of cases of collapse after deliver occur without obvious vaginal bleeding but these are the ones that pose a greater challenge for diagnosis and management.*

The common causes of postpartum collapse without bleeding are - Eclampsia

- Uterine rupture
- Vasovagal syncope
- Pulmonary embolism (Amniotic fluid embolism)
- Septic shock
- Uterine inversion

Renu Mishra further adds

- "Acute inversion of the uterus should be one of the first possibilities

to cross the obstetricians mind in case of unexplained shock"

Amniotic fluid embolism

- *It is a life threatening complication of pregnancy with an extremely high mortality rate. 300*
- *The pathogenesis of the condition is not clear.*
- *Amniotic fluid probably enter the maternal venous circulation through a breach in the barrier b/w the maternal vasculature and the amniotic fluid most likely from the placental site or at the site of a uterine trauma after the membranes have ruptured.*
- *Classically amniotic fluid embolism presents during labour or immediately after the delivery with sudden onset maternal collapse associated with tachypnea, cyanosis, hypotension, altered mental DIC.*
- *So, there is nothing to differentiate between uterine inversion and amniotic fluid embolism in terms of clinical presentation.*
- *We have opted for uterine inversion as it seems to be the more important and more common cause of unexplained shock.*
- *But we are still not sure*
  - *A patient with amniotic fluid embolism will always present in this manner i.e., unexplained death following normal delivery .*
  - *On the other hand uterine inversion commonly present as life threatening post partum hemorrhage. - It may present as unexplained shock but this is not its usual presentation.*
  - *If there is a case of postpartum collapse and no other significant findings are present the first diagnosis that comes to the mind is embolism.*
  - *All other causes of postpartum collapse will have some clinical feature which would point towards to cause. Clinically most of the obstetricianl would suspect amniotic fluid embolism if any other abnormality is absent in case post partum collapse.*

## 6. Vaginal delivery can be allowed in all except

a) Monochorionic, monoamniotic twins

b) Mentoanterior

c) Extended breech

d) Dichorionic twins with first vertex & second breech

Correct Answer - A

Monochorionic, monoamniotic twins [*Ref Williams Obstetrics 23/e, Chap. 24 and 39; Danfroth's Obs. and Gynae 10/e Chap 14 & 22; Dutta Obstetrics 6/e, p 209.*]

Mentoanterior face presentation, extended breech and dichorionic twins with first vertex and second breech, all of these can be allowed for vagina delivery.

*Monochorionic monoamniotic twins are best delivered by caeserean section as soon as lung maturity is attained for fear of entanglement and tightening of umbilical cord which may lead to fetal distress and death.*

Monoamniotic twins are rare, complicating < 1% of monozygotic twins. They have a very high fetal mortality rate of — 40%.

Besides cord entanglement these twins are at greater risk of congenital anomalies, conjoining, preterm birth and twin-twin transfusion syndrome (TTTS).

Let's have a revision of twinning

Mode of delivery of twin pregnancy

After the first twin is delivered vaginally, some norms are to be followed for delivery of second twin as depicted in the following flowchart?

- ECV - External cephalic version, CPD - Cephalopelvic disproportion.

- NVD - Normal vaginal delivery, IPV - Internal podalic version
- Unskilled in WV, breech extraction and assisted breech delivery.  
Now let's have a look at *mode of delivery for malpresentations* -  
\*ACOG - American College of Obstetrician and Gynecologists -  
2006 guidelines  
Occipito posterior position is not dealt here as it is a malposition not  
malpresentation.

## 7. All are seen in gestational diabetes except -

a) Previous macrosomic baby

b) Obesity

c) Malformations

d) Polyhydramnios

Correct Answer - C

Malformations [Ref Fernando Arias 3<sup>rd</sup>/e p. 445]

Gestational diabetes

- *Gestational diabetics are a heterogenous group of patients whose disease onset or first recognition occurs during the present pregnancy.*
  - *The majority of these women have carbohydrate intolerance because of the diabetogenic effects of pregnancy and will have normal carbohydrate tolerance after delivery.*
  - *However some of them may have type II or type I diabetes that became apparent under metabolic demands of pregnancy.*
  - *In the large majority of patients it is mild and can be adequately controlled with diet along but in minority it will require Glyburide or insulin.*

## 8. During active labour cervical dilatation per hour, in primi is :

a) 1.2 cms

b) 1.5 cms d.

c) 1.7 cms

d) cms

Correct Answer - A

**Ans. is a i.e. 1.2 cms**

**Labour is said to active when :**

- Cervix is dilated to at least 3 — 4 cms.°
- Regular uterine contractions are present.°
- Rate of dilatation is at least 1.2 cm/hr° for nulliparous and 1.5 cm/hr° for parous women.

**The pattern of cervical dilatation during the latent and active phase of normal labour is a sigmoid curve.**

This curve is called as *Friedman curve*.

**Friedman subdivided the active phase into :**

- Acceleration phase — 3 - 4 cm of cervical dilatation
- Phase of maximum slope — 4 - 9 cm
- Deceleration phase — 9 - 10 cm

**Remember :**

*Latent phase is mainly concerned with cervical effacement active phase with cervical dilatation and the second stage with descent of the head.*

In the nulliparous/ primi gravida --> rate of cervical dilatation ranges between 1.2-6.8 cms/hr, minimum should be 1.2 cm/hr.

In multipara minimum rate of cervical dilatation is 1.5 cms/hr.

If dilatation is less than these, then it is called as protracted active

phase.

**Abnormalities of active phase:** Protracted active phase (Le. slow rate of cervical dilatation or descent of head).

<b>Features</b>	<b>Cervical dilatation</b>	<b>Descent of head</b>
<b><i>Nulliparous</i></b>	< 1.2 cm/hr	< 1 cm/hr
<b><i>Multiparous</i></b>	< 1.5 cm/hr	< 2 cm/hr

- ***Arrest of dilatation*** : Cessation of dilatation for 2 or more hours.

- ***Arrest of descent*** : Cessation of descent for 1 hr or more hours.

- ***Precipitate labour*** : *Nulliparous* Dilatation and descent > 5 cm/hr°.

*Multiparous* Dilatation and descent > 10 cm/hr°.

## 9. What is not included in active management of third stage of labour:

a) Early cord clamping

b) Uterine massage

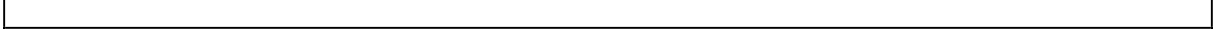
c) Use of oxytocin

d) Controlled cord traction

Correct Answer - A

Ans: A. Early cord clamping

Stage	Starts/ Ends	Duration		Abnormalities
		Primi- parous	Multip- arous	
3rd	Delivery of infant to delivery of placenta.	0-0.5 hour	0-0.5 hour	<b>Prolonged third stage:</b> <ul style="list-style-type: none"> <li>• Failure to deliver placenta within 30 minutes</li> </ul> <b>Cause:</b> Consider placenta percreta/accreta/increta <b>Management:</b> <ul style="list-style-type: none"> <li>• IV oxytocin</li> <li>• If oxytocin fails, attempt manual removal</li> <li>• Hysterectomy may be needed</li> </ul>



**10.** A pregnant lady acquires chicken pox 3 days prior to delivery. She delivers by normal vaginal route. Which of the following statement is TRUE?

a) Both mother and baby are safe

b) Give antiviral treatment to mother before delivery

c) Give antiviral treatment to baby

d) Baby will develop neonatal varicella syndrome

### Correct Answer - D

Since the lady developed chicken pox 3 days prior to deliver and has delivered through vaginal route neonate is most likely to develop congenital varicella syndrome.

Perinatal varicella is associated with a high mortality rate when maternal disease develops within 5 days before delivery or within 48 h thereafter. This is because newborn does not receive protective transplacental antibodies and has an immature immune system.

### Principal manifestations of congenital varicella syndrome are:

- Skin lesions
- Microphthalmia, chorioretinitis, cataract, atrophy of optic nerve
- Neurosensorial deafness or hypoacusia
- Microcephaly, calcifications, cerebral atrophy, hydrocephalus, mental retardation
- Limb hypoplasia or paresis

**Ref:** Whitley R.J. (2012). Chapter 180. Varicella-Zoster Virus Infections. In D.L. Longo, A.S. Fauci, D.L. Kasper, S.L. Hauser, J.L. Jameson, J. Loscalzo (Eds), *Harrison's Principles of Internal Medicine*, 18e

**11.** A woman comes in obstructed labour and is grossly dehydrated. Investigations reveal fetal demise. What will be the MOST appropriate management in this patient?

a) Craniotomy

b) Decapitation

c) Cesarean section

d) Forceps extraction

### Correct Answer - C

In cases of fetal demise, delivery is the best treatment due to the risk of DIC from retained IUFD. Since this patient is in obstructed labor and is grossly dehydrated, Caesarean section is the treatment of choice. Before 20 weeks of gestation the products are evacuated from the uterus by dilation and evacuation or with mifepristone and misoprostol in some cases. After 20 weeks pregnancy is usually terminated by induction of labor with prostaglandins or high dose oxytocin.

**Intrauterine fetal demise refers to fetal death after 20 weeks of gestation. Signs:**

absence of fetal heart tones at a prenatal visit beyond 20 weeks of gestation and absence of uterine growth. **Lab:** Declining levels of HCG may aid in diagnosis early in pregnancy.

**Investigation:** Ultrasound shows absent fetal cardiac activity beyond 6 weeks of gestation, scalp edema, and fetal maceration.

**Ref:** Blueprints Obstetrics and Gynecology By Tamara Callahan page 101. Manual Of Obstetrics, 3/e By Daftary page 324

**12.** A 25 year old nulliparous woman at 35 weeks' gestation comes to the labor and delivery ward complaining of contractions, a headache, and flashes of light in front of her eyes. Her pregnancy has been uncomplicated except for an episode of first trimester bleeding that completely resolved. She has no medical problems. Her temperature is 37 C (98.6 F), blood pressure is 160/110 mm Hg, pulse is 88/minute, and respirations are 12/minute. Examination shows that her cervix is 2 centimeters dilated and 75% effaced, and that she is contracting every 2 minutes. The fetal heart tracing is in the 140s and reactive. Urinalysis shows 3+ proteinuria. Laboratory values are as follows: leukocytes 9,400/mm<sup>3</sup>, hematocrit 35%, platelets 101,000/mm<sup>3</sup>. Aspartate aminotransferase (AST) is 200 U/L, and ALT 300 U/L. Which of the following is the most appropriate next step in management?

a) Administer oxytocin

b) Discharge the patient

c) Encourage ambulation

d) Start magnesium sulfate

Correct Answer - D

**Ans: D. Start magnesium sulfate**

This patient has **severe preeclampsia**. Preeclampsia is diagnosed on the basis of hypertension, edema, and proteinuria.

Severe preeclampsia may be diagnosed when the patient has one of the following: a headache that does not respond to analgesics, visual changes, seizure, very elevated blood pressures, pulmonary edema, elevated liver function tests, severe proteinuria, oliguria, an elevated creatinine, thrombocytopenia, hemolysis, intrauterine growth restriction, or oligohydramnios.

The management of severe preeclampsia after 32 weeks is with delivery.

Prior to 32 weeks, consideration may be given to expectant management of the patient depending on the clinical circumstances.

This patient is at 35 weeks' with headache, visual changes, elevated blood pressures, thrombocytopenia, and elevated liver function tests. She, therefore, needs to be delivered.

She appears to already be in labor as she is contracting every two minutes and her cervix is dilated and effaced.

At this point, magnesium sulfate should be started.

Magnesium sulfate has consistently been demonstrated to be the most effective medication for seizure prophylaxis in women with preeclampsia.

To **administer oxytocin** would not be necessary for this patient. She appears to already be in labor with contractions every two minutes.

To **discharge the patient** would absolutely be incorrect. Severe preeclampsia need to be delivered or, at the very least, admitted to the hospital. There is no role for discharging a patient home in the management of severe preeclampsia.

To **encourage ambulation** would also be incorrect. Severe preeclampsia should be kept on bed rest.

**Ref:** Cunningham F.G., Leveno K.J., Bloom S.L., Hauth J.C., Rouse D.J., Spong C.Y. (2010). Chapter 34. Pregnancy Hypertension. In F.G. Cunningham, K.J. Leveno, S.L. Bloom, J.C. Hauth, D.J. Rouse, C.Y. Spong (Eds), *Williams Obstetrics*, 23e.

**13.** Caudal Regression Syndrome is seen in babies of mothers suffering from which of the following condition?

a) PIH

b) Anaemia

c) Cardiac disease

d) Gestational diabetes

**Correct Answer - D**

Caudal Regression syndrome is about 200 times more frequent in patients with diabetes, than in normal healthy women (general population).

It is the most specific fetal malformation in maternal diabetes.

**Ref:** Williams Obstetrics 22nd Edition, Page 1177; Pediatric Brain And Spine: An Atlas Of MRI And Spectroscopy By Leena Ketonen Page 383.

**14.** Which of the following findings can be seen during clinical examination of a pregnant female with heart disease compared with normal pregnancy?

a) Pedal edema

b) Engorged neck veins

c) Dyspnea

d) Exercise intolerance

Correct Answer - B

In normal pregnancy, functional systolic heart murmurs are common; respiratory effort is accentuated and at times suggests dyspnea; edema in the lower extremities after mid pregnancy is common; and fatigue and exercise intolerance develop in most women. Some systolic flow murmurs may be loud.

**Clinical indicators of heart disease during pregnancy:**

**Symptoms:**

- Progressive dyspnea or orthopnea
- Nocturnal cough
- Hemoptysis
- Syncope
- Chest pain

**Clinical Findings**

- Cyanosis
- Clubbing of fingers
- *Persistent neck vein distension*
- Systolic murmur grade 3/6 or greater
- Diastolic murmur
- Cardiomegaly
- Persistent arrhythmia
- Persistent split second sound
- Criteria for pulmonary hypertension

**Ref:** Cunningham F.G., Leveno K.J., Bloom S.L., Hauth J.C., Rouse D.J., Spong C.Y. (2010). Chapter 44. Cardiovascular Disease. In F.G. Cunningham, K.J. Leveno, S.L. Bloom, J.C. Hauth, D.J. Rouse, C.Y. Spong (Eds), *Williams Obstetrics*, 23e.

**15.** A pregnant lady had no complaints but mild cervical lymphadenopathy in first trimester. She was prescribed spiramycin but she was non-compliant. Baby was born with hydrocephalus and intracerebral calcification. Which of these is likely cause?

a) Toxoplasmosis

b) CMV

c) Cryptococcus

d) Rubella

### Correct Answer - A

About 10%–20% of patients, toxoplasmosis causes lymphadenopathy and/or a flu like illness. Cervical lymph nodes are most frequently involved, but any nodes may be enlarged.

In primary infection during pregnancy, spiramycin is started immediately.

Main clinical features of congenital toxoplasmosis are,

- Microcephaly or hydrocephaly
- Severe chorioretinitis
- Hearing loss
- Convulsions
- Abnormal cerebrospinal fluid (CSF) (xanthochromia and mononuclear pleocytosis)
- Cerebral calcifications
- Mental retardation

**Ref:** Dominguez S.R., Levin M.J. (2012). Chapter 43. Infections: Parasitic & Mycotic. In W.W. Hay, Jr., M.J. Levin, R.R. Deterding, J.J. Ross, J.M. Sondheimer (Eds), *CURRENT Diagnosis & Treatment: Pediatrics*, 21e.

**16.** Which one of the following congenital malformations of the fetus can be diagnosed earliest in a first trimester ultrasound?

a) Anencephaly

b) Prosencephaly

c) Microcephaly

d) Meningocele

Correct Answer - A

Anencephaly can be reliably diagnosed at 11-14 weeks of gestation by ultrasound scan. With careful imaging it can be diagnosed even as early as the 8th or the 9th week.

The most important feature is the absence of calvaria above the bony orbits particularly on taking a coronal image of the face.

It has little or no cerebral tissue usually, although some tissue might be seen protruding from the defect.

The crown-rump length is reduced significantly.

The ultrasonogram shows a typical mickey mouse face sign on taking a coronal section of the head.

Ref: Diagnostic imaging of fetal anomalies By David A. Nyberg, John P. McGahan, Pages 293-296, 275-276, 306-309, 232-235; The Spina Bifida: Management and Outcome By M. Memet Özek, Giuseppe Cinalli, Virginia June Maixner, Pages 75-81; Prenatal Diagnosis and Therapy By Chakravarty, Page 74.

**17. All are used in PPH expert :**

a) Mife pristone

b) Carboprost

c) Misoprostol

d) Ergometrine

Correct Answer - A

**Ans: A. Mife pristone**

**18. After coming head of breech will have difficulty in delivery in all of the following conditions except :**

a) Hydrocephalus

b) Placenta previa

c) Incomplete dilation of cervix

d) Extension of head

Correct Answer - B

**Ans. is b i.e. Placenta previa**

**Entrapment of the after coming head occurs in case of:**

- *Incompletely dilated cervix*
- Hydrocephalus
- *Extended head / deflexed head*
- Contracted pelvis

Management :

- If entrapment occurs due to incompletely dilated cervix **Vuhrssen's incisions'** are placed over the cervix avoiding the 3 and 9'0 clock position.
- **Intravenous nitroglycerine** can be used to relax the cervix.
- Replacement of the fetus higher in to the vagina and uterus, followed by cesarean delivery (**Zavanelli manoeuvre**)
- **Symphiotomy** used to widen the anterior pelvis is practiced in some countries and is associated with good infant outcomes.

**Also Know**

**Impacted Breech**

- In spite of good uterine contractions and complete dilatation of the cervix, the breech fails to descend.

- This occurs only in extended breech and is usually due to disproportion.
- Impaction can occur at the inlet, cavity or outlet.
- *If within 30 min of full cervical dilatation the breech does not descend and distend the perineum, cesarean section is done regardless of the level of impaction.*

**19. The serious complications of pregnancy with heart disease are the following except :**

a) Antepartum hemorrhage

b) Postpartum hemorrhage

c) Puerperal infection

d) Puerperal thromboembolism

Correct Answer - A  
Antepartum hemorrhage

**20. Increased calories required during pregnancy:**  
***September 2012***

a) 300

b) 400

c) 550

d) 800

Correct Answer - A

Ans. A i.e. 300

*The increased calorie requirement is to the extent of 300 over the non pregnancy state during second half of pregnancy.*

**21. Drug of choice in chronically hypertensive pregnant women requiring long term antihypertensive therapy:  
*September 2007***

a) Nifedipine

b) Metoprolol

c) Methyldopa

d) Hydralazine

Correct Answer - C

Ans. C: Methyldopa

Methyldopa is a drug of first choice for control of mild to moderate hypertension in pregnancy and is the most widely prescribed antihypertensive for this indication.

During long term use in pregnancy, methyldopa does not alter maternal cardiac output or blood flow to the uterus or kidneys, and for all these reasons it is generally considered the agent of choice for chronic blood pressure control in pregnancy.

Because the safety record of labetalol in pregnancy is not as well established as that of methyldopa, labetalol should probably be considered a second-line agent for pregnant women with chronic hypertension requiring long term drug therapy

## 22. Fetal adrenals release which hormone predominantly:

*March 2009, September 2010*

a) Oestrogen

b) Testosterone

c) Aldosterone

d) Cortisone

Correct Answer - D

**Ans. D: Cortisone**

Fetal adrenals shows hypertrophy of the reticular zone (fetal zone), which is the site of synthesis of oestriol precursor, cortisol and dehydroepiandrosterone.

After 12 weeks of gestation, the activity of 3 p-hydroxysteroid dehydrogenase (HSD3B) decreases in fetal adrenal and sulfokinase activity increases.

At that time (during the mid-gestation, 12 to 22 weeks) the major steroid products are DHEA and DHEA Sulfate (DHEA-S).

During the mid-gestation (12 to 22 weeks), the aromatase activity and sulfokinase activity increases. So Placenta itself utilizes fetal DHEA and DHEA-S as substrate for estrone and estradiol as precursors.

**23. Maximal level of cardiac output is seen at:  
*September 2009***

a) 22-26 weeks of pregnancy

b) 26-30 weeks of pregnancy

c) 30-34 weeks of pregnancy

d) 34-38 weeks of pregnancy

Correct Answer - C

Ans. C: 30-34 Weeks of Pregnancy

The cardiac output starts to increase from 5<sup>th</sup> week of pregnancy and reaches its peak 40-50% at about 30-34 weeks. Cardiac output increase further during labour (+50%) and immediately following delivery (+70%) It returns to pre-pregnancy level by 4 weeks time after labour.

**24. Advantages of median episiotomy over mediolateral episiotomy are all except:  
*March 2005***

a) Less blood loss

b) Easy repair

c) Extension of the incision is easy

d) Muscles are not cut

Correct Answer - C

Ans. C: Extension of the Incision is Easy

Mediolateral episiotomy is performed by making a diagonal incision across the midline between the vagina and anus. This method is used much less often.

**The disadvantages are:**

- Apposition of the tissues is not so good.
- May require more healing time than the midline incision.
- Blood loss is little more
- Postoperative discomfort is more
- Relative increased incidence of wound disruption
- Dyspareunia is comparatively more

**The advantages are:**

- If necessary the incision can be extended.
- Relative safety from rectal involvement from extension.

**25. Exact number of weeks between last menstrual period [LMP] and expected date of delivery [EDD]:**  
***March 2005***

a) 38 weeks

b) 39 weeks

c) 40 weeks

d) 41 weeks

Correct Answer - C

Ans. C: 40 weeks

Childbirth usually occurs about 38 weeks after conception; i.e., approximately 40 weeks from the last normal menstrual period (LNMP).

The World Health Organization defines normal term for delivery as between 37 weeks and 42 weeks

- **EDD** is calculated by Naegele's rule
- Add 7 days to the first day of the last period and subtract 3 months
- Naegele's rule is based on 28 days regular cycle.
- If the cycle is shorter or longer than 28 days, EDD will be corrected and written as corrected **EDD**.
- Examples:
  - 40 days cycle regularly, to get corrected EDD, add 12 days (40-28) with the EDD calculated from LMP.
  - 21 days cycle regularly, to get corrected EDD, subtract 7 days (28-21) with the EDD calculated from LMP.

**26. Treatment of carcinoma cervix stage MB  
include**

a) Concurrent chemoradiation

b) Surgery

c) Neoadjuvant chemotherapy followed by radiotherapy

d) Only radiotherapy

Correct Answer - A

Ans. a. Concurrent chemoradiation

**27. A female presents with 8 weeks amenorrhea with pain left lower abdomen. On USG, there was thick endometrium with mass in lateral adnexa. Most probable diagnosis**

a) Ectopic pregnancy

b) Torsion of dermoid cyst

c) Tubo-ovarian mass

d) Hydrosalpinx

Correct Answer - A

Ans. a. Ectopic pregnancy

- A female with 8 weeks amenorrhea with pain left lower abdomen and on USG, thick endometrium with mass in lateral adnexa is suggestive of ectopic pregnancy

**28. A young female with 2 month amenorrhea presents with sudden abdominal pain with adnexal mass, urine pregnancy test is positive. Most likely diagnosis:**

a) Ovarian tumor

b) Ectopic pregnancy

c) Pelvic tumor

d) Ovarian cyst

Correct Answer - B  
Ans. b. Ectopic pregnancy

**29. In a study it is observed that the right ovary ovulates more than the left, all are possible explanation for the cause except**

a) Anatomical difference between right and left side

b) Difference in blood supply to both sides

c) Right handedness is more common in population

d) Some embryological basis

Correct Answer - C

Ans. c. Right handedness is more common in population

- It is believed that right sided predominance was either genetically determined or due to differences in vasculature of the ovaries.
  - The anatomical asymmetry between the left and right side are also thought to be the reason.
- Ovulation**
- In the primate, it is suggested that ovulations occur with equal frequency in the left and right ovary.
  - In the humans, there is some controversy about the frequency of ovulation on either side
  - It is believed that in normally menstruating women, ovulation was significantly higher in right ovary.
  - It is believed that right sided predominance was either genetically determined or due to differences in vasculature of the ovaries.
  - The anatomical asymmetry between the left and right side are also thought to be the reason.
  - The left ovarian vein drains to the left renal vein and the right ovarian vein to the IVC.
  - The left renal vein is thought to be under pressure than the right and

therefore drain slower. Because the left ovary drain slower, the collapsed follicle (corpus leuteum) takes longer to clean and thereby diminishes the chances that ovulation will occur on that side the following month. No such condition exists on the right side, that's why successive right side ovulation is more common

**30. A young lady presents to your office with complain of copious vaginal discharge, but there is no cervical discharge on per speculum examination. Which of the following should be given for the management**

a) Metronidazole and fluconazole

b) Metronidazole and azithromycin

c) Metronidazole and doxycycline

d) Fluconazole only

Correct Answer - A

Ans.'a'Metronidazole and fluconazole

### 31. Which of the following is least seen in uterine fibroid

a) Hyaline degeneration

b) Sarcomatous change

c) Red degeneration

d) Fatty degeneration

Correct Answer - B

Ans. b. Sarcomatous change .

- The risk of sarcoma developing in a fibroid uterus is approximately 0.5% (Least common secondary change).

#### **Secondary Changes in Fibroid**

- Hyaline degeneration:
- MC change, more common in central portion<sup>Q</sup>
- Cystic degeneration (after menopause)
- Fatty degeneration (after menopause)
- Calcareous degeneration (after menopause)
- Atrophy<sup>o</sup> (after menopause)
- Red degeneration<sup>o</sup> (2<sup>o</sup> half of pregnancy)
- Sarcomatous change:
- Least common change<sup>Q</sup>
- Incidence 0.5% of all fibroids
- More common in intramural and submucous fibroids

**32. A 24 years gravid female at 36 weeks gestation comes with visual disturbance, headache and elevated BP of 180/110 mm Hg and 176/104 mm Hg in two readings taken 20 minutes apart. Which is the best management**

a) Start antihypertensive, magnesium sulphate and terminate pregnancy

b) Admit, start antihypertensive and allow to continue the pregnancy to the term

c) Give antihypertensive and treat in OPD basis

d) Only admit and watch the patient

Correct Answer - A

Ans. a. Start antihypertensive, magnesium sulphate and terminate pregnancy

### 33. Test not useful in case of tubal pregnancy:

a) Pelvic examination

b) USG

c) HCG levels

d) Hysterosalpingography

Correct Answer - D

Ans. d. Hysterosalpingography

- Hysterosalpingography should not be done in the post-ovulatory period, presence of genital infections and if the patient is sensitive to iodine

#### **Investigations done in case of Tubal Pregnancy**

##### **Acute Ectopic Pregnancy**

- There is no need and no time for any investigation other than Hb, BGCM and immediate laparotomy<sup>Q</sup>

##### **Subacute Ectopic Pregnancy**

- Beta-hCG<sup>Q</sup>
- USG<sup>Q</sup>
- Combination of quantitative hCG and Sonography<sup>Q</sup>
- Laparoscopy: Best in unruptured ectopics, only done in hemodynamically stable patients<sup>Q</sup>
- Dilatation and curettage<sup>Q</sup>
- Serum progesterone:
  - >25 ng/mL: Viable pregnancy<sup>Q</sup>

Q

**34. Which of the following is not helpful in diagnosis of tubal mass in ectopic pregnancy**

a) Beta-HCG estimation

b) Hysterosalpingography

c) Transvaginal ultrasound

d) Pelvic examination

Correct Answer - B  
Ans. b. Hysterosalpingography

**35. A 19 years old patient came to the out patient department with complaints of primary amenorrhea. She had well-developed breast and pubic hair. However there was absence of vagina and uterus but normal ovaries. Likely diagnosis is:**

a) XYY

b) Mullerian agenesis

c) Gonadal dysgenesis

d) Klinefelter's syndrome

Correct Answer - B

Ans. b. Mullerian agenesis

- Mullerian agenesis is the cause of primary amenorrhea, which is characterized by absence of uterus /vagina, also known as Rokitansky-Kuster- Hausen syndrome.

**36. A 36 years old multigravida at 34 weeks, with previous 2 normal vaginal delivery now presented with unstable lie. The most likely diagnosis it s case is:**

a) Oligohydramnios

b) Placenta previa

c) Pelvic tumor

d) Uterine anomalies

Correct Answer - B

Ans. b. Placenta previa

(Ref Dutta 6/e 17244 25 Oligohydramnios does not present with unstable lie. History of previous cesarean section or any scar on uterus is a predisposing factor for **Placenta previa**.)

**37.**

**lady with previous cesarean section presents in labour. Trial of normal vaginal delivery is contraindicated in:**

a) Breech presentation

b) Fact of knowing that previous cesarean section was due to CPD

c) Previous classical cesarean section

d) No previous vaginal delivery

Correct Answer - C

Ans. c. Previous classical cesarean section

- Trial of normal vaginal delivery is contraindicated in previous classical or inverted-T shaped uterine incision cesarean section.

**Vaginal Birth After Cesarean (VBAC) Trial of Labour (TOL Selection Criteria**

- One previous lower segment transverse scar<sup>Q</sup>
- Pelvis adequate for the fetus<sup>Q</sup>
- Continued labour monitoring possible<sup>Q</sup>
- Availability of resources (Anesthesia, blood transfusion and OT), for emergency cesarean section within 30 minutes of decision
- Informed consent of the women

**Contraindications**

- Previous classical or inverted-T shaped uterine incision<sup>Q</sup>
- Previous 2 or more LSCS<sup>Q</sup>
- Pelvis contracted or suspected CPD<sup>Q</sup>
- Presence of other complications in pregnancy- Obstetric (Pre-eclampsia, malpresentation, placenta praevia) or medical
- Resources limited or emergency cesarean delivery or patient refusal



**38. Trial of normal labour is contraindicated in:**

a) History of previous classical cesarean section

b) History of previous cesarean section due to CPD

c) No history of prior vaginal delivery

d) History of previous cesarean section due to malpresentation

Correct Answer - A

Ans. a. History of previous classical cesarean section

**39. A young female presents with cyclical pain, dysmenorrhea and complain of infertility. Which of the following would be investigation of choice in her**

a) TVS

b) Diagnostic laparoscopy

c) Aspirate from pouch of Douglas

d) Hormonal assessment

Correct Answer - B

Ans. b. Diagnostic laparoscopy

- Clinical features of infertility, dyspareunia and cyclic pain are highly suggestive of endometriosis. Laparoscopy is gold standard for diagnosis of endometriosis

**40. Shock index (HR/SBP) can be used to know the severity of the bleeding in cases of hemorrhage. Which of the following is most indicative for significant PPH**

a) 0.3-0.5

b) 0.5-0.7

c) 0.7-0.9

d) 0.9-1.1

Correct Answer - D

Ans. d. 0.9-1.1

- elevated shock index (heart rate/systolic blood pressure >0.9) maybe signs of tissue hypoperfusion
- Shock Index**
- Shock index (SI), defined as the ratio of heart rate (HR) to systolic blood pressure (SBP).
  - Shock index >0.9: Sign of tissue hypoperfusion<sup>Q</sup>
  - Shock index (SI) = Heart rate (HR)/ Systolic blood pressure (SBP)

## 41. Forceps are preferred over vacuum for the delivery because of the following reasons except

a) Vacuum requires more clinical skills than forceps

b) Vacuum is preferred more than forceps in HIV patient

c) Forceps are more commonly associated with fetal facial injury

d) Vacuum has more chance of formation of cephalhe matoma

Correct Answer - A

Ans. a. Vacuum requires more clinical skills than forceps

Advantages of Ventouse:

- It is comfortable and has lower rates of maternal trauma and genital tract lacerations°
  - Reduced maternal pelvic floor injuries and is advocated as the instrument of first choice°
  - Perineal injuries (3<sup>rd</sup> and 4<sup>th</sup> degree tears) are less
- Due to above mentioned reasons, Vacuum is preferred more than forceps in HIV patient to decrease the transmission.

**42. A 26-year old primigravida at 32 weeks of gestation experienced faintness and nausea in lying down and recovers after turning on her side or getting up. These symptoms can be attributed to which of the following**

a) Reduced placental flow

b) Increased intragastric pressure

c) Increased intracranial pressure

d) Inferior vena caval compression

Correct Answer - D

Ans. d. Inferior vena caval compression

Symptoms of faintness and nausea in lying down position and recovery after turning on the side or getting up in a 26-year old primigravida at 32 weeks of gestation can be attributed to inferior vena caval compression.

"Supine hypotensive syndrome is caused when the inferior vena cava is compressed by the weight of a pregnant female uterus, fetus, placenta and amniotic fluid while lying in the supine position. The condition can develop as early as the second trimester but is maximum during the third trimester. The patient experiences reduced blood pressure signs of shock such as cool, moist and clammy skin, tachycardia (early sign), bradycardia (very late sign), dizziness, syncope or near syncope, pedal edema, nausea, decreased femoral pulse and signs of fetal distress. Supine hypotensive syndrome is easily managed by placing the patient in left lateral position

left lateral position

### **Supine Hypotension Syndrome (Postural Hypotension)**

- During late pregnancy, the gravid uterus produces a compression effect on the inferior vena cava when the patient is in supine position.<sup>Q</sup>
- This, however, results in opening up of collateral circulation by means of paravertebral and azygous veins. In some cases (10%) when collateral circulation fails to open up, the venous return to heart is seriously curtailed.<sup>Q</sup>
- This results in production of hypotension, tachycardia and syncope.<sup>Q</sup>
- Turning patient to lateral position quickly restores the normal blood pressure.<sup>Q</sup>
- Can cause severe fetal distress<sup>Q</sup>
- The augmentation of venous return during uterine contraction prevents the manifestation from developing during labour.<sup>Q</sup>

### 43. Test used to differentiate between maternal and fetal blood in a given sample

a) Kleihauer-Betke test

b) Osmotic fragility test

c) Apt test

d) Bubbling test

Correct Answer - C

Ans. c. Apt test

Both Apt test and Kleihauer-Betke test can be used to detect the presence of fetal blood within a sample but test used to differentiate between maternal and fetal blood in a given sample is Apt test.

#### **Apt Test:**

- Used to detect the presence or absence of fetal blood (qualitative) in a vaginal discharge to rule out vasa previa late in pregnancy or to detect the origin of a neonatal bloody vomiting, whether it is a genuine upper GI hemorrhage/ hemoptysis or simply swallowed maternal blood during delivery or from cracked nipple.

#### **Kleihauer-Betke Test:**

- The sample is maternal peripheral smear and is used to see how much of fetal blood (quantitative) has been transfused into the maternal serum in order to assess the risk of isoimmunization and then the risk of hemolytic disease of newborn.
- Both of them relies on the fact that HbF is resistant to alkali (Apt) and acids (Kleihauer-Betke) and so the HbA containing RBCs (Maternal) will be hemolyzed but not the fetal RBCs as they contain the HbF.

*When fetal blood  
needs to be*

*Apt test is used<sup>Q</sup>*

*differentiated from maternal blood* (Qualitative estimation)

*When the amount of fetal bleeding needs to be estimated* Kleihauer-Betke test is used<sup>Q</sup> (Quantitative estimation)

	<b>Apt test</b>	<b>Kleihauer-Betke test</b>
Source of sample	Maternal or neonatal	Maternal <sup>Q</sup>
Principle	Adding 1% NaOH destroys adult HbA but not fetal HbF	Adding acid destroys adult HbA but not fetal
Assessment Type	Qualitative <sup>Q</sup>	Quantitative <sup>Q</sup>
Result	Positive means blood is of fetal origin <sup>o</sup>	Reported in estimated milliliters of fetal

**44. A 55-year old woman was found to have Ca cervix, FIGO stage 2-3, locally advanced. What would be the management**

a) Surgery plus chemotherapy

b) Radiotherapy plus chemotherapy

c) Chemotherapy

d) Radiotherapy plus HPV vaccine

Correct Answer - B

Ans. b. Radiotherapy plus chemotherapy

Radiotherapy was cornerstone of advanced stage CA cervix management. Current evidence indicates that "concurrent chemotherapy" significantly improves overall and disease free survival of women with advanced cervical cancer. Thus most patients with Stage IIB to IVA are best treated with "chemoradiation". Cisplatin containing regimens are associated with best survival rates.

**45. A patient with carcinoma endometrium has >50% myometrial invasion and vaginal metastasis. Pelvic and retroperitoneal lymph nodes are not involved. Peritoneal seedings are positive. The stage is:**

a) Ma

b) Tub

c) HIC1

d) II1C2

Correct Answer - B

Ans. b. Tub

Stage of the patient with carcinoma endometrium having >50% myometrial invasion and vaginal metastasis with involvement of pelvic and retroperitoneal lymph nodes is Mb.

**Stage Feature**

I	Cancer confined to corpus uteri
IA	No or less than half myometrial invasion.
IB	Invasion equal to or more than half of the myometrium
II	Tumor invades cervical stroma but does not extend beyond the uterus.
III	Local and/or regional spread

- ''' of the tumor
- III A Tumor invades the serosa of the corpus uteri and/or adnexa
- 111B Vaginal and/or parametrial involvement
- III C1 Positive pelvic lymph nodes
- III C2 Positive para-aortic lymph nodes with or without positive pelvic lymph nodes
- IV Spread beyond the pelvis
- IV A Tumor invasion of bladder and/or bowel mucosa.

**46. A 20-year old average weight female complains of oligomenorrhea along with facial hair. Preliminary investigations reveal raised free testosterone levels. USG Pelvis: ovary shows normal morphology. Which of the following could be likely etiology**

a) Idiopathic hirsutism

b) PCOD

c) Adrenal hyperplasia

d) Testosterone secreting tumor

Correct Answer - B

Ans. b. PCOD (Ref Jeffcott 6/e p205; Shaw's 14/331-332, 13/e p353-354; Novak's 14/1077, 1082)

**47. After a full term normal delivery patient went into shock Most probable cause is**

a) Inversion of uterus

b) Post-partum hemorrhage

c) Amniotic fluid embolism

d) Eclampsia

Correct Answer - A  
Ans. a. Inversion of uterus

**48. The highest volume overload in a parturient due to maximum cardiac output is seen:**

a) During second trimester

b) At term

c) After a heavy meal

d) Immediately after delivery

Correct Answer - D

Ans. d. Immediately after delivery

The highest volume overload in a parturient due to maximum cardiac output is seen immediately after delivery.

"Peripheral vasodilation leading to a decrease in systemic vascular resistance is thought to be the first cardiovascular change associated with pregnancy (induced by progesterone). Cardiac output increases in response to this, by 20% at 8 weeks gestation and by up to 40-50% at 20-28 weeks gestation. Labour leads to further increases in cardiac output by 15% in the first stage and 50% in the second stage due to the combination of auto-transfusion of 300-500 ml of blood back into the circulation with each uterine contraction, and sympathetic stimulation caused by pain and anxiety. Cardiac output increases again immediately after delivery due to auto-transfusion of blood via uterine contraction and relief of aortocaval compression. This may increase cardiac output by as much as 60-80%, followed by a rapid decline to pre-labour values within 1 houry

**Physiological Changes in the Cardiovascular System During Pregnancy**

- Peripheral vasodilation leading to a decrease in systemic vascular resistance is thought to be the first cardiovascular change associated with pregnancy (induced by progesterone).
- Cardiac output increases in response to this, by 20% at 8 weeks gestation and by up to 40-50% at 20-28 weeks gestation.
- This is achieved predominantly via an increase in stroke volume (due to an increase in ventricular end-diastolic volume, wall muscle mass, and contractility) but also by an increase in heart rate
- Labour leads to further increases in cardiac output by 15% in the first stage and 50% in the second stage due to the combination of auto-transfusion of 300-500 ml of blood back into the circulation with each uterine contraction, and sympathetic stimulation caused by pain and anxiety
- Cardiac output increases again immediately after delivery due to auto-transfusion of blood via uterine contraction and relief of aortocaval compression. This may increase cardiac output by as

**49. Which of the following drug is not the first line treatment for anovulatory abnormal uterine bleeding in a 13-year-old girl?**

a) Tranexemic acid

b) Mefenamic acid

c) Progesterone

d) Estrogen + progesterone

Correct Answer - B

Ans. b. Mefenamic acid

Management

. Treat the cause

. Anovulatory cycles:

In an acute episode of bleeding, IV premarin 25 mg 6-8 hourly will control bleeding in 24-48 hours. Thereafter, estrogen for 21 days with progestogen added for 10 days for 3-6 cycles will regularize the cycles.

- In chronic menorrhagia, oral combined pills or cyclical progestogen are the first line of treatment. About 70-80% responds well.

. NSAIDs: Mefenamic acid (250-500 mg TID during periods), Naproxen, ponstan, ibuprofen

. Androgens (danazol) are not recommended, though effective, because of androgenic effects in young girls.

GnRH therapy takes 4 weeks to act, so not useful in acute episode. The drug is expensive and prolonged treatment over 4-6 months can cause osteoporosis.

. If progestogens cause side effects. Mirena IUD for a few months

. In progestogenic cases like endometriosis, Mirena IUD for a few months can control menorrhagia.

. Arterial embolization is rarely required in case of varicosity of uterine vessels.

. When above treatments fail, uterine tamponade using Foley catheter for 24 hours can control bleeding in the acute episode. Alternately, thermal balloon therapy may be required.

. Blood transfusion may be required to correct anemia.

. Non-steroidal anti-inflammatory drugs (NSAIDs) taken during menstruation for 4-5 days control menorrhagia by 70% in ovulatory cycles, post IUCD and post-sterilization menorrhagia.

**50. Studies have shown that complications of prematurity, IUGR are not affected by the time of cesarean section. What is the recommended timing of cesarean section?**

a) 37 weeks

b) 38 weeks

c) 39 weeks

d) 40 weeks

Correct Answer - C

Ans. c. 39 weeks

- Given the balance of risks and benefits associated with cesarean delivery on maternal request, the Committee on obstetric practice offers the following recommendations:
- In the absence of maternal or fetal indications for cesarean delivery, a plan for vaginal delivery is safe and appropriate and should be recommended.
- The following is recommended in cases in which cesarean delivery on maternal request is planned:
- Cesarean delivery on maternal request should not be performed before a gestational age of 39 weeks.
- Cesarean delivery on maternal request should not be motivated by the unavailability of effective pain management.
- Cesarean delivery on maternal request particularly is not recommended for women desiring several children, given that the risks of placenta previa, placenta accreta, and gravid hysterectomy

increase with each cesarean delivery.

**51. Which of the following is not an abdominal laparoscopic technique for tubal ligation?**

a) Pomeroy

b) Parkland

c) Essure

d) Irving

Correct Answer - C

Ans. c. Essure

Essure is a permanent intratubal implant and a non- surgical transcervical sterilization procedure for women, not an abdominal laparoscopic technique for tubal ligation.

Tssure is a permanent intratubal implant and a non- surgical transcervical sterilization procedure for women.'- Williams 23" p698-701

Winilaparotomy with Pomeroy ligation technique is the most common procedure performed via periumbilical incision, usually following vaginal delivery. The proximity of the uterine fundus in relation to the umbilicus during the immediate postpartum period facilitates this approach.'

`Irving published his method in which the proximal portion of the severed tube is buried in a small myometrial tunnel on the anterior uterine surface.'

**52. A girl with normal stature and minimal or absent pubertal development is seen in**

a) Kallman syndrome

b) Turner syndrome

c) Testicular feminization syndrome

d) Pure gonadal dysgenesis

Correct Answer - A

Ans. a. Kallman syndrome

'Kallmann syndrome is a genetic condition where the primary symptom is a failure to start puberty or a failure to fully complete it. It occurs in both males and females and has the additional symptoms o.f hypogonadism and almost invariably infertility. Kallmann syndrome al.so features the additional symptom of an altered sense of smell; either totally absent (anosmia) or highly reduced (hyposmia)- Nelson

**53. If the life style factor that is causing infertility in a young male is identified. Which of the following life style modification will have no effect?**

a) Weight gain

b) Less exercise

c) Vegetarian diet

d) Weight loss

Correct Answer - C

Ans. c. Vegetarian diet

Vegetarian diet will have minimal or no effect on fertility.

1

'Weight definitely matters when it comes to fertility. Women who are overweight - or underweight - tend to have a more difficult time conceiving. The same goes for men, but more about that later.'- [http //www early-pregnancy-tests com/ weight-fertility html](http://www.early-pregnancy-tests.com/weight-fertility.html)

'Exercise can affect fertility in several ways. Over-exercising is one of the bigger causes of infertility for women. If a woman exercises too much, she is at a risk of losing too much of her body fat. Body fat plays an essential role in the production of estrogen; without enough estrogen, a woman who over-exercises might not ovulate. The technical term for not ovulating is oligomenorrhea, and is a major cause of fertility problems. Women who don't get enough exercise can impact their fertility negatively as well. By not getting enough exercise, a woman runs the risk of becoming overweight or obese. An overweight or obese woman, because she has more fat cells, can actually have too much estrogen. This overproduction of

estrogen can negatively impact ovulation and conception. In addition, being overweight puts you at risk for insulin resistance, which can ultimately keep you from ovulating.

<http://www.babyhopes.com/articles/exercise-fertility.html>

**54. Which of the following drug is Category B (adequate studies in pregnant woman have failed to demonstrate a fetal risk)?**

a) Brimonidine

b) Pilocarpine

c) Latanoprost

d) Dorzolamide

Correct Answer - A

Ans. a. Brimonidine

Alpha-2 Agonists category B . Brimonidine poses substantial risk to the newborn, having been reported to cause central nervous system depression and apnea. The drug penetrates the blood-brain barrier, and can cross

the placenta and possibly excrete into breast milk, posing a real risk of apnea or hypotension in infants. Thus, even if brimonidine is used during pregnancy, it should be discontinued before labor and during breastfeeding to prevent potential fetal apnea in the infant.

## 55. All of the following are used for screening cancers in females except

a) CA-125: Ovarian cancer

b) Office endometrial aspirate: Endometrial carcinoma

c) Pap smear: Cervical cancer

d) Mammography: Breast cancer

Correct Answer - B

Ans. b. Office endometrial aspirate: Endometrial carcinoma

Office endometrial aspirate is not used for screening of Endometrial carcinoma.

Transvaginal ultrasound and endometrial sampling have been advocated as screening tests for endometrial cancer but benefit from routine screening have not been shown.

'Screening for endometrial cancer should currently not be undertaken because of a lack of an appropriate, cost-effective and acceptable test that reduces mortality. Routine PAP testing is an inadequate test that reduces mortality. Routine PAP testing is inadequate and endometrial cytology assessment is too insensitive and non-specific to be useful in screening for endometrial cancer even in a high-risk population.'

<b>Screening Test</b>	<b>Disease Screened</b>
Papanicolaou (Pap's) smear	Cervical cancer
Mammography	Breast cancer
CA-125	Ovarian

CA-125

ovarian  
cancer

### Screening Test

- The screening test is used to search for an unrecognized disease or defect, in apparently healthy individuals, using rapidly applied tests, examination or other procedures

### Screening Test

### Disease Screened

Papanicolaou  
(Pap's) smear

Cervical cancer<sup>Q</sup>

Mammography

Breast cancer<sup>Q</sup>

Bimanual oral  
examination

Oral cancer<sup>Q</sup>

ELISA

HIV<sup>Q</sup>

Urine for sugar,  
Random blood sugar

Diabetes mellitus<sup>Q</sup>

AFP

Developmental  
anomalies in fetus<sup>Q</sup>

DRE + PSA

Prostate cancer<sup>Q</sup>

Fecal occult blood  
test

Colorectal cancer<sup>Q</sup>

CA-125

Ovarian cancer<sup>Q</sup>

**56. A 3-month-old child with history of passage of clay colored stools and dark yellow urine since one month was given steroids and ursodeoxycholic acid. On further investigation, he was found to have direct bilirubin of 6 mg%. Which of the following is the most sensitive investigation for the diagnosis of above-mentioned condition?**

a) Ultrasound

b) HIDA scan

c) Liver function tests

d) CT abdomen

Correct Answer - B

Ans. b. HIDA scan

'Hepatobiliary scintigraphy with technetium labeled iminodiacetic acid derivatives (HIDA scan) is used to differentiate biliary atresia from non-obstructive causes of cholestasis. The hepatic uptake of the agent is normal in patients with biliary atresia but excretion into the intestine is absent.

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For any queries inbox @murtazakuchay

**57. In a neonate with meningitis, Gram-positive bacilli were isolated on CSF examination. Which of the following is the likely causative organism?**

a) Streptococcus pneumoniae

b) Listeria monocytogenes

c) Hemophilus influenzae

d) Neisseria meningitides

Correct Answer - B

Ans. b. Listeria monocytogenes

Only gram positive bacteria with endotoxin (LPS)c

Small, coccoid, gram positive bacillusg

Aerobic, microaerophilic with tendency to occur in chains

Characteristic Features :

' It has characteristic slow, tumbling motilitya when grown at 25C

(non-motile at 37C), this is because peritrichous

flagella are produced by the bacillus optimally at 20C to 30C but only scantily are 37C.

It grows on ordinary media within a temperature range of 1C to 45 Co

. It is an intracellular pathogen, a characteristic consistent with its

predilection of causing illness in persons with

deficient cell mediated immunity

- Instillation into the eyes of rabbits produce keratoconjunctivitis

(Anton test)

' Listeria can move from cell to cell without being exposed to

antibodies, complements, or polymorphonuclear cells

n Iron is an important virulence factor, Listeria produce siderophores

and are able to obtain iron from transferrin

**58. A child with nephrotic syndrome following an episode of diarrhea presented with acute kidney injury with a creatinine of 4.5. All of the following are possible reasons except?**

a) Excess furosemide

b) Diarrhea water depletion

c) Renal vein thrombosis

d) Steroid induced diabetes

Correct Answer - D

Ans. d. Steroid induced diabetes

Massive proteinuria, with the daily loss of 3.5 gm or more of protein

Hypoalbuminemia, with plasma albumin levels < 3 gm/dl

Generalized edema

Hyperlipidemia and lipiduria

Steroid induced diabetes is not the cause of acute kidney injury in patients of nephrotic syndrome who present with episode of diarrhea and raised creatinine.

**59. A child with cyanosis and choking on feeding at birth was diagnosed as trachea-esophageal fistula and had undergone a corrective surgery. He was brought to you with complains of barking cough and expiratory wheeze. What is the most likely diagnosis?**

a) Tracheomalacia

b) Subglottic stenosis

c) Croup

d) Bronchial asthma

Correct Answer - A

Ans. a. Tracheomalacia

The most likely diagnosis in a child of trachea-esophageal fistula who had undergone a corrective surgery and brought to you with complains of barking cough and expiratory wheeze is tracheomalacia.

Primary tracheomalacia and bronchomalacia is principally a disease of infants. The dominant finding, low-pitched wheezing, is most prominent over the central airways. When the lesion involves only one main bronchus (commonly the left), the wheezing is louder on that side, and delayed air entry can be detected with a double-headed stethoscope. In cases of tracheomalacia, the wheeze is loudest over the trachea. Hyperinflation and/or subcostal retraction do not occur unless the patient also has asthma or another cause of small airways obstruction. Thus, most patients do not improve with

use of bronchodilators. It is common for beta-adrenergic agents to cause worsening. Acquired tracheomalacia and bronchomalacia is seen in association with vascular rings, following repair of tracheoesophageal fistula, cardiomegaly, and after lung transplantation.

### **Chondromalacia of the Trachea**

- Primary tracheomalacia and bronchomalacia is principally a disease of infants
- Acquired tracheomalacia and bronchomalacia is seen in association with vascular rings, following repair of tracheoesophageal fistula, cardiomegaly, and after lung transplantation

### **Clinical Features**

- The dominant finding, low-pitched wheezing, is most prominent over the central airways.
- When the lesion involves only one main bronchus (commonly the left), the wheezing is louder on that side, and delayed air entry can be detected with a double-headed stethoscope.
- In cases of tracheomalacia, the wheeze is loudest over the trachea
- Hyperinflation and/or subcostal retraction do not occur unless the patient also has asthma or another cause of small airways obstruction
- Thus, most patients do not improve with use of bronchodilators
- It is common for beta-adrenergic agents to cause worsening.

### **Diagnosis:**

- Pulmonary function testing may show flattening of the flow-volume loop.
- The lesion is difficult to detect on plain radiographs, but fluoroscopy may demonstrate dynamic collapse
- Definitive diagnosis is by flexible bronchoscopy
- MRI is useful when there is a possibility of vascular ring and should be performed when a right aortic arch is seen on plain film radiography.

## 60. Which of the following if seen on day 10 of life is worrisome?

a) Unconjugated hyperbilirubinemia

b) Conjugated hyperbilirubinemia

c) No weight gain

d) Doll's eye reflex

Correct Answer - B

Ans. b. Conjugated hyperbilirubinemia

Hyperbilirubinemia, if seen on day 10 of life is worrisome.

'Hyperbilirubinemia is a common and, in most cases, benign problem in neonates. Nonetheless, untreated, severe indirect hyperbilirubinemia is potentially neurotoxic, and conjugated-direct hyperbilirubinemia often signifies a serious hepatic or systemic illness. Jaundice is observed during the 1<sup>st</sup> week of life in approximately 60% of term infants and 80% of preterm infants.'

### **Neonatal Period (First 4 weeks)**

- Visual Milestone: May fixate face or light in line of vision; 'doll's-eye' movement of eyes on turning of the body.
- Hyperbilirubinemia is a common and, in most cases, benign problem in neonates. Nonetheless, untreated, severe indirect hyperbilirubinemia is potentially neurotoxic, and conjugated-direct hyperbilirubinemia often signifies a serious hepatic or systemic illness. Jaundice is observed during the 1<sup>st</sup> week of life in approximately 60% of term infants and 80% of preterm infants.

**61. A 10 months old child weighing 5 kg and length 65 cm presents with cough and cold. He was found to have a respiratory rate of 48 per minute with no retraction, grunting or cyanosis. There is no history of convulsions. Which of the following is true about this child?**

a) No pneumonia, only cough and cold

b) Child has pneumonia

c) Severe pneumonia

d) Very severe disease

Correct Answer - A

Ans. a. No pneumonia, only cough and cold

No Pneumonia:

Cough or Cold Pneumonia (Not severe) Severe Pneumonia Very Severe Pneumonia

. No chest indrawing, No fast breathing

Management:

No antibiotics necessary

. Treat

symptomatically

If cough > 30 days, refer for assessment

**62. A child, known case of bronchial asthma, presents with respiratory distress with respiratory rate of 48/ min, can speak barely 2 words. Nebulized salbutamol was given and patient could speak a sentence but there was a fall in SpO<sub>2</sub> from 95% to 85%. What could be the possible explanation?**

a) Ventilation perfusion mismatch because of increased dead space ventilation

b) Intra-thoracic shunting

c) Due to salbutamol

d) Faulty pulse oximete

Correct Answer - A

Ans. a. Ventilation perfusion mismatch because of increased dead space ventilation

Ventilation perfusion mismatch because of increased dead space ventilation could be the possible explanation for the child of bronchial asthma presenting with respiratory distress with respiratory rate of 48/min, speaking barely 2 words but patient could speak a sentence with a fall in SpO<sub>2</sub>, from 95% to 85% when nebulized salbutamol was given

**Ventilation Perfusion Mismatch**

- A defect, which occurs in the lungs whereby ventilation (the exchange of air between the lungs and the environment) and

perfusion (the passage of blood through the lungs) are not evenly matched, a finding typical of bronchial asthma.

- V/Q mismatch is the most common cause of hypoxemia and a component of most causes of respiratory failure.
- In a patient with V/Q mismatch, there will most likely be some areas of the lungs, which are better perfused than ventilated and some areas which are better ventilated than perfused. While this occurs to some degree in the normal lung, in V/Q mismatch, it is increased significantly to the point of being pathological.
- In asthma, bronchospasm, mucus plugs, inflammation and airway obstruction in general worsen ventilation disrupting the balance between ventilation and perfusion

**63. A neonate presented on day one of life with bilious vomiting. First investigation to be done is:**

a) Chest skiagram

b) Babygram

c) Ultrasound

d) Manometry

Correct Answer - A

Ans. b. Babygram

A neonate presented on day one of life with bilious vomiting. First investigation to be done is Babygram (full body radiograph of the baby) to rule out duodenal atresia. Babygram is a full body radiograph of the baby, which shows the double bubble sign in duodenal atresia.

'The hallmark of duodenal obstruction is bilious vomiting without abdominal distention, which is usually noted on the 1<sup>st</sup> day of life. Peristaltic waves may be visualized early in the disease process. The diagnosis is suggested by the presence of a 'double-bubble sign' on plain abdominal radiographs. The appearance is caused by a distended and gas-filled stomach and proximal duodenum. Contrast studies are usually not necessary and may be associated with aspiration if attempted. Contrast studies may occasionally be needed to exclude malrotation and volvulus because intestinal infarction may occur within 6-12 hr if the volvulus is not relieved.

**Duodenal Atresia**

- Occurs as a result of failure of vacuolization of the duodenum from its solid cord stage.

## **Anatomic variants of Duodenal Atresia**

### **Duodenal stenosis**

- Mucosal web with intact muscular wall (windsock deformity)
- Two ends separated by a fibrous cord
- Complete separation with a gap within the duodenum

### **Associated Anomalies:**

- Prematurity, Down syndrome, polyhydramnios<sup>Q</sup>
- Malrotation, annular pancreas, biliary atresia<sup>Q</sup>
- Cardiac, renal, esophageal, and anorectal anomalies<sup>Q</sup>

### **Clinical Features:**

- In most cases, the duodenal obstruction is distal to the ampulla of Vater, and infants present with bilious emesis in the neonatal period<sup>Q</sup>.

### **Diagnosis**

- X-ray abdomen: Double-bubble sign (air-filled stomach and duodenal bulb<sup>Q</sup>).
- Diagnosis is confirmed, if there is no distal air<sup>Q</sup>.
- If distal air is present, an upper GI contrast study is performed rapidly, not only to confirm the diagnosis of duodenal atresia but also to exclude midgut volvuluse.

### **Treatment:**

- Diamond-shaped duodenoduodenostomy is the treatment of choice<sup>Q</sup>.

<b>Single bubble sign</b>	<b>Congenital Hypertrophic Pyloric Stenosis<sup>Q</sup></b>
Double bubble sign	Duodenal atresia <sup>Q</sup> , Annular pancreas
Triple bubble sign	Triple bubble sign

## 64. Identify the disease shown in the karyotype:

a) Cri-du-chat syndrome

b) Bloom syndrome

c) Angelman syndrome

d) Fragile X syndrome

Correct Answer - A

Ans. a. Cri-du-chat syndrome

In the karyotype, there is deletion of chromosome number 5, which leads to Cri-du-chat syndrome.

The two best-characterized deletion syndromes, Wolf-Hirschhorn syndrome and cri-du-chat syndrome, result from loss of relatively small chromosomal segments on chromosomes 4p and 5p, respectively. - Harrison 18/e p517

Cri-du-chat syndrome is a well-known syndrome caused by partial deletion of the short arm of chromosome 5. Affected children have a cat-like cry, microcephaly, mental retardation and congenital heart disease.'

### Important Chromosomal disorders

#### Genomic Imprinting

Bloom Syndrome

Prader-Wili syndrome  
(Maternal

#### Trisomies

Downs Syndrome  
(Chromosome 21)

Edward Syndrome  
(Chromosome

\ chromosome 15)	\ 18)
Angelman syndrome	Patau Syndrome
(Paternal chromosome 15)	(Chromosome 13)
Russel Silver syndrome	
(Maternal chromosome 7)	
Albright Hereditary Osteodystrophy	
Beckwith-Weidman syndrome	
(Paternal chromosome 11)	
Transient Neonatal syndrome	
(Paternal chromosome 6)	

**65. A neonate presents with respiratory distress with enlargement of left upper lobe of lung and mediastinal shift towards the right. What is the most likely diagnosis?**

a) Alpha-1 antitrypsin deficiency

b) Pneumonia

c) Congenital lobar emphysema

d) Cystic fibrosis

Correct Answer - C

Ans. c. Congenital lobar emphysema

**66. A child suffered from viral illness for which he was given aspirin. Three days later the child was brought to the emergency with altered sensorium and icterus. What is the underlying biochemical defect?**

a) Beta-oxidation of fatty acids

b) Glucose-6-phosphatase deficiency

c) Pyruvate dehydrogenase deficiency

d) Urea cycle defect

Correct Answer - A

Ans. a. Beta-oxidation of fatty acids

A child suffered from viral illness for which he was given aspirin. Three days later the child was brought to the emergency with altered sensorium and icterus. Clinical picture mentioned in the question is highly suggestive of Reye's syndrome. Drugs (salicylates), toxins (aflatoxins), viral infections (varicella, influenza) and certain inborn errors of metabolism (single enzyme defects of beta-oxidation) can precipitate Reye's syndrome

'Reye's syndrome: It is an acute self limiting metabolic insult of diverse etiology resulting in generalized mitochondrial dysfunction. Drugs (salicylates), toxins (aflatoxins), viral infections (varicella, influenza) and certain inborn errors of metabolism (single enzyme defects of beta-oxidation) can precipitate Reye syndrome.

Neuroglucopenia and hyperammonemia result from mitochondrial and sodium pump failure. Encephalopathy is secondary to the liver damage.

damage. -

### **Reye's Syndrome (Fatty Liver with Encephalopathy)**

- is an acute self-limiting metabolic insult of diverse etiology resulting in generalized mitochondrial dysfunction°.
- Acute illness, encountered exclusively in children < 15 years°
- *Onset usually follows an upper respiratory tract infection, especially influenza or chickenpox*
- Drugs (salicylates), toxins (aflatoxins), viral infections (varicella, influenza) and certain inborn
- errors of metabolism (single enzyme defects of beta-oxidation) can precipitate Reye syndrome°.

#### **Histopathology:**

- Morphologically, extensive vacuolization of the liver and renal tubules°.
- Mitochondria! dysfunction with decreased activity of hepatic mitochondrial enzymes with structural alterations of mitochondria in liver, brain and muscle°
- In fatal cases, the liver is enlarged and yellow° with striking diffuse fatty microvacuolization of cells
- Extensive accumulation of fat droplets within hepatocytes (microvesicular steatosis)
- Major extra-hepatic changes are fatty changes of the renal tubular cells, cerebral edema and neuronal degeneration of the brain°

#### **Clinical Features:**

- Characterized clinically by: Vomiting<sup>Q</sup>, signs of progressive CNS damage<sup>Q</sup>, signs of hepatic injury<sup>Q</sup> hypoglycemia<sup>Q</sup>
- A mild prodromal illness is followed by acute onset of the disease.
- Seizures occur in more than 80% patients. There are few focal neurological or meningeal signs.
- The liver is enlarged, but jaundice is characteristically absent or minimal<sup>Q</sup>

#### **Clinical Features are described in Four Stages**

Stage I Vomiting, anorexia, mild confusion,

I listlessness, apathy

Stage II Delirium, restlessness, irritability,

II lack of orientation,

frightened, agitated states

Stage III Coma, decorticate posture which

Stage Coma, decorticate posture which

III later becomes decerebrate

Stage Flaccidity, areflexia, apnea, dilated

IV pupils not reacting to light, severe hypotension.

### **Laboratory Findings in Reye's Syndrome**

Raised

aminotranferases and Metabolic acidosis<sup>Q</sup>

PT<sup>Q</sup>

Hypoglycemia<sup>Q</sup>

Elevated serum ammonia level<sup>Q</sup>

Treatment:

- Infusion of 20% glucose and fresh frozen plasma<sup>Q</sup>
- I.V. mannitol to reduce cerebral edema<sup>Q</sup>

Prognosis:

- Mortality rate: Approx. 50%<sup>Q</sup>

**67. A person is hemiplegic and bed ridden for one year. Changes in bone mineral density are first seen in:**

a) Distal radius

b) Proximal femur

c) Proximal humerus

d) Lumbar spine

Correct Answer - C

Ans. c. Proximal humerus

person is hemiplegic and bed ridden for one year. Changes in bone mineral density are first seen in proximal humerus.

`Osteoporosis in Hemiplegia: BMDs of proximal humerus, distal radius, femoral neck, and calcaneus bilaterally, and third lumbar vertebra, measured with dual-energy<sup>y</sup> x-ray absorptiometry (DXA), were compared between affected and unaffected sides at admission and discharge. BMDs of the affected side were lower and most marked in the humerus.'-Osteoporosis in hemiplegic stroke patients as studied with dual-energy X-ray absorptiometry. J. Arch Phys Med Rehabil

**68. A child is diagnosed with osteosarcoma based on sunray appearance on X-ray. This is because of:**

a) Calcification along the periosteum

b) Calcification along the blood vessels

c) Periosteal reaction

d) Soft tissue invasion

Correct Answer - C

Ans. c. Periosteal reaction

'The X-ray appearances are variable: hazy osteolytic areas may alternate with unusually dense osteoblastic areas- Often the cortex is breached and the tumour extends into the adjacent tissues; when this happens, streaks of new bone appear, radiating outwards from the cortex the so. called 'sunburst' effect. Where the tumour emerges from the cortex, reactive new bone forms at the angles of periosteal elevation (Codman's triangle). While both the sunburst appearance and Codman's triangle are typical of osteosarcoma.

**69. Which of the following displacement is not seen in Colle's fracture?**

a) Radial tilt

b) Volar tilt

c) Dorsal displacement

d) Supination

Correct Answer - B

Ans. b. Volar tilt

Displacements of Colle's Fracture:

It results in dinner fork / silver fork / spoon shaped deformity

**70. A 10-year old boy presented with a mid tibial swelling. On X-ray, lytic lesion with sclerotic margins was seen. What is the most likely diagnosis?**

a) . Osteoid osteoma

b) Fibrous cortical defect

c) Osteosarcoma

d) Fibrous dysplasia

Correct Answer - A

Ans. a. Osteoid osteoma

Osteoid Osteoma . This tiny bone tumour (<1 cm in diameter) causes symptoms out of all proportion to its size.

. More common in males, <30 years of age.

. Any bone except the skull may be affected, but over half the cases occur in the femur or tibia.

. Persistent pain, typically relieved by salicylates.

**71. Which of the following inflammatory condition has association with HLA-B27 in 90% cases?**

a) Ankylosing spondylitis

b) Reiter's arthritis

c) Garamond

d) Rheumatoid arthritis

Correct Answer - A

Ans. a. Ankylosing spondylitis

Ankylosing spondylitis shows a striking correlation with the histocompatibility antigen HLA-B27 and occurs worldwide roughly in proportion to the prevalence of B27. In North American whites, the prevalence of B27 is 7%, whereas it is 90% in patients with AS, independent of disease severity.'-

**72. A 40-year old man presented with acute onset pain and swelling of left great toe. On X-ray, punched out lytic lesion seen on phalanx with sclerotic margins and overhanging bony edges. Diagnosis is:**

a) Gout

b) Rheumatoid arthritis

c) Psoriatic arthritis

d) Reiter's syndrome

Correct Answer - A

Ans. a. Gout

'Gout is a metabolic disease that most often affects middle-aged to elderly men and postmenopausal women. It results from an increased body pool of urate with hyperuricemia. It typically is characterized by episodic acute and chronic arthritis caused by deposition of MSU crystals in joints and connective tissue tophi and the risk for deposition in kidney interstitium or uric acid nephrolithiasis. Usually, only one joint is affected initially and the metatarsophalangeal joint of the first toe is the most commonly involved joint- Harrison

**73. A 40-year-old female presents with multiple lytic bone lesions, fracture clavicle and periosteal resorption of 2nd and 3rd metatarsals. What is the most likely diagnosis?**

a) Hyperthyroidism

b) Hyperparathyroidism

c) Renal osteodystrophy

d) Osteomalacia

Correct Answer - B

Ans. b. Hyperparathyroidism

The distinctive bone manifestation of hyperparathyroidism is osteitis fibrosa cystica. X-ray changes include resorption of the phalangeal tufts and replacement of the usually sharp cortical outline of the bone in the digits by an irregular outline (subperiosteal resorption). In recent years, osteitis fibrosa cystica is very rare in primary hyperparathyroidism, probably due to the earlier detection of the disease

## 74. Bone dysplasia is invariably seen in:

- a) Hyperparathyroidism
- b) Osteosarcoma
- c) Osteomalacia
- d) Developmental defect

Correct Answer - D

Ans. d. Developmental defect

Bone dysplasia is invariably seen in developmental defect.

Developmental abnormalities of the skeleton are complex, variable, frequently genetically based, and first become manifest during the earliest stages of bone formation. They can be of two types- Dysostoses or Dysplasias.'-Robbins 8/e p1210

Developmental anomalies resulting from localized problems in the migration of mesenchymal cells and their formation of condensations are known as dysostoses. They are usually limited to defined embryologic structures and may result from mutations in certain transcription factors (Homeobox genes).

Mutations in the regulators of skeletal organogenesis, such as cellular signaling mechanisms (e.g., growth factors and their receptors), and matrix components (e.g., types 1 and 2 collagen), affect cartilage and bone tissues globally, and these disorders are known as dysplasias.-

## 75. H-reflex is useful in diagnosing:

a) L3 radiculopathy

b) L4 radiculopathy

c) L5 radiculopathy

d) S1 radiculopathy

Correct Answer - D

Ans. d. S1 radiculopathy

H-reflex is useful in diagnosing S1 radiculopathy.

The H-reflex is easily recorded only from the soleus muscle (S1) in normal adults. It is elicited **by** low-intensity stimulation of the tibial nerve and represents a monosynaptic reflex in which spindle (Ia) afferent fibers constitute the afferent arc and alpha motor axons the efferent pathway. The H-reflexes are often absent bilaterally in elderly patients or with polyneuropathies and may be lost unilaterally in S1 radiculopathies.'

### **H-Reflex Studies**

- The H reflex is easily recorded only from the soleus muscle (S1) in normal adults.
- It is elicited by low-intensity stimulation of the tibial nerve and represents a monosynaptic reflex in which spindle (Ia) afferent fibers constitute the afferent arc and alpha motor axons the efferent pathway.
- The H reflexes are often absent bilaterally in elderly patients or with polyneuropathies and may be lost unilaterally in S1 radiculopathies<sup>Q</sup>.

**76.**

## Which of the following is not a part of HELLP syndrome?

a) Hemolysis

b) Elevated liver enzymes

c) Thrombocytopenia

d) Retroplacental hemorrhage

Correct Answer - D

Ans. d. Retroplacental hemorrhage

Retroplacental hemorrhage is not a part of HELLP syndrome.

HELLP syndrome is an acronym for Hemolysis (H), Elevated liver enzymes (EL) and Low Platelet count (LP) of  $< 1,00,000/\text{mm}^3$

Clinical Features:

- . Manifested by nausea, vomiting, epigastric or right upper quadrant pain, along with biochemical and haematological changes.
- . Parenchymal necrosis of liver causes elevation in hepatic enzymes (AST and ALT  $> 70$  IU/L and LDH  $> 600$  IU/L).
- . There may be subcapsular hematoma formation (which may need CT scanning) and abnormal peripheral smear.
- . Eventually liver may rupture to cause sudden hypotension, due to hemoperitoneum

**77.**

**A cesarian section was done in the previous pregnancy. All of the following would be indications for elective section except\***

a) Breech

b) Macrosomia

c) Polyhydramnios

d) Post-term

Correct Answer - C

Ans. c. Polyhydramnios

Polyhydramnios is not an indication for elective cesarean section in a patient with history of cesarean section in the previous pregnancy.

**Indications of Repeat Cesarean Section in Case of Past history of Cesarean Section**

Recurrent indication for initial caesarean delivery

(Labour dystocia or cephalo-pelvic disproportion)

Two or more previous caesarean deliveries<sup>Q</sup>

Previous classical caesarean delivery

Previous unknown type of caesarean delivery

Past history of uterine rupture<sup>Q</sup>

Malpresentation<sup>Q</sup>(e.g. Breech)

Fetal macrosomia<sup>Q</sup>

Gestation beyond 40 weeks<sup>Q</sup>

## 78. Which of the following is responsible for pubertal growth in females?

a) Decreased level of adrenal androgens at puberty

b) High level of estrogen at puberty

c) Pulsatile release of GnRH during sleep

d) Increased sensitivity of HPO axis to estrogen

Correct Answer - C

Ans. c. Pulsatile release of GnRH during sleep

After a decade of quiescence, pulsatile secretion of GnRH increases and the hypothalamic-pituitary gonadal axis is reactivated (gonadarche), probably in response to metabolic signals from the periphery. FSH and LH levels rise moderately before age 10, followed by a gradual increase in estradiol concentrations, which stimulate breast development (thelarche). The increase in pulsatile gonadotrophin secretion occurs first at night, during sleep, but gradually extends throughout the day

**79. One of the following forms the basis for chromatin testing?**

a) Barr body

b) Testosterone receptors

c) Hormone levels

d) Phenotypic features

Correct Answer - A

Ans. a. Barr body

When two X chromosomes are present in a cell (as in a normal female) one of them becomes inactivated and condensed on the nuclear membrane and is called the 'Barr body'. This process is termed as X chromosome lyonization (inactivation)

**80. Hysteroscopic myomectomy scores over open omectoin in alb of the following except:**

a) Less recurrence

b) Less post-operative pain

c) Less bleeding

d) Early ambulation

Correct Answer - C

Ans. c. Less bleeding

Possible risk or complication of open myomectomy is excessive bleeding during the operation requiring blood transfusion, anemia due to blood loss during the operation and in post-operative period. During hysteroscopic myomectomy, intraoperative bleeding is rare. Bleeding is unlikely unless vessels are lacerated or injured in the cervical canal or lower uterine segment during dilation or deep ablation or vaporization.

**Hysteroscopic Myomectomy**

- Hysteroscopic myomectomy involves inserting a hysteroscope through the vagina and the cervix into the uterus.
- Hysteroscopes are so thin that they can fit through the cervix with minimal or no dilation.
- Because the instruments are inserted through the cervix, no abdominal incisions are needed.
- A resectoscope, which is a hysteroscope fitted with a wire loop that uses high-frequency electrical current to cut or coagulate tissue, is then inserted to remove the fibroids.
- The loop is placed around the fibroid, electrical energy passes

through the loop, and the fibroid is cut loose.

- The fibroid can then be removed through the vagina.

**Advantages of Hysteroscopic Myomectomy:**

- This procedure is most often done on an "outpatient" basis under general anesthesia.
- There is usually minimal discomfort during hysteroscopy.
- It takes about 60 minutes to complete the procedure, which is followed by a few hours of recovery time.
- Hysteroscopy can be used to remove fibroids on the inner wall of the uterus that have not grown deep into the uterine wall.
- Complications occur less than 1% of the time with hysteroscopic myomectomy.
- *During hysteroscopic myomectomy, intraoperative bleeding is rare. Bleeding is unlikely unless vessels are lacerated or injured in the cervical canal or lower uterine segment during dilation or deep ablation or vaporization*

**81. With respect to fetal breathing movements, which of the following is not true?**

a) May cause respiratory distress syndrome

b) Causes aspiration of amniotic fluid

c) Increase towards term

d) Help in conditioning of respiratory muscles

Correct Answer - A

Answer- A (May cause respiratory distress syndrome)

- Fetal Breathing Movements:
- Aspiration of amniotic fluid is higher with breathing
- Breathing movements increase towards term, become more regular
- Help in conditioning of respiratory muscles

**82. A 30-year-old female from poor socio-economic strata from a hill station presents with complaints of frequency, dysuria, hematuria, loss of appetite, mild fever and amenorrhea. The most likely cause for her complaints is:**

a) Pelvic inflammatory disease

b) Genitourinary tuberculosis

c) Bacterial cystitis

d) Foreign body in urinary bladder

Correct Answer - B

Answer- B (Genitourinary TB)

- Genital tuberculosis is very common in India.
- Most common site of infection of genital tuberculosis is the fallopian tubes and the pathological process leads to blockage of tubes'

**83. A 28 years old female presented with the history of recurrent abortions, pain in calves for 4 years. Patient is suffering from congenital deficiency of:**

a) Protein C

b) Thrombin

c) Plasmin

d) Factor XIII

Correct Answer - A

Answer- A (Protein C)

- 'Inherited thrombophilia causes both early and late miscarriages due to intravascular thrombosis
- . Protein C resistance (factor V Leiden mutation) is the most common cause
- Protein C is the natural inhibitor of coagulation – Dutta

## 84. Which of the following will not decrease mother to child transmission of HIV?

a) Avoid breastfeeding

b) Vaginal delivery

c) Zidovudine given to mother antenatally and to neonate after birth

d) Vitamin A supplementation given to mother

Correct Answer - B

Answer- B (Vaginal delievery)

- Vaginal delivery increases risk of mother to childhood transmission of HIV.
- 'HIV can be transmitted through breast milk, avoiding breast feeding decreases the mother to child transmission of HIV.'

**85. All of the following constitute the active management of third stage of labour for the prevention of postpartum hemorrhage (PPH) except:**

a) Direct injection of oxytocin after delivery of anterior shoulder

b) Constant controlled cord traction

c) Early cord clamping and cutting

d) Prophylactic misoprostol

Correct Answer - C

Answer- C (Early cord clamping and cutting)

- Current evidence shows that delayed cord clamping is beneficial for the baby.
- Immediate cord clamping has been shown to increase the incidence of iron deficiency and anemia.
- For premature and low birth weight babies immediate cord clamping can also increase the risk of intraventricular hemorrhage and late onset sepsis.

**86. Which of the following histories is not an indication to perform oral glucose tolerance test to diagnose gestational diabetes mellitus?**

a) Past history of eclampsia

b) Past history of congenital anomalies in the fetus

c) Past history of unexplained fetal loss

d) Past history of polyhydramnios

Correct Answer - A

Ans. a. Past history of eclampsia (Ref Williams 23/e p1107. Dutta 7/e p281, 6/c p284)

Past history of eclampsia is not an indication to perform oral glucose tolerance test to diagnose gestational diabetes mellitus.

**87. Karyotyping of the fetus can be done through all of the following invasive methods except:**

a) Chorionic villus sampling

b) Cordocentesis

c) Amniocentesis

d) Fetal skin biopsy

Correct Answer - D

Ans. d. Fetal skin biopsy (Ref: Williams 23/e p299-301; Dutta 6/e p107, 108, 642)

"Currently there are three routine ways of obtaining fetal tissue: Amniocentesis at 15 to 20 weeks, gestation, chorionic villas sampling at 10 to 12 weeks, and percutaneous umbilical blood sampling (cordocentesis) past 18 weeks

**88. For an elective, forceps delivery with a cephalic presentation of the fetus, which of the following is correct?**

a) Fetal head should be at station '0'

b) Forceps **can** be used for >15 degree head rotation from AP diameter

c) Can be used in vertex, mentoanterior and face presentation

d) Should not be used with caput succedaneum

Correct Answer - C

Ans. c. Can be used in vertex, mentoanterior and face presentation  
(Ref: Dutta 7/e p573, 575; Williams 23/e p513)

- Elective forceps delivery with a cephalic presentation of the fetus can be used in vertex, mentoanterior and face presentation.  
"Presence of caput succedaneum is not a contraindication for forceps application."
- "Forceps is applied when head reaches the perineum (not at zero station)." "Forceps can be applied till maximum 45° rotation."

**89. What would be the ideal management of a woman with infertility who is detected to have bilateral cornual block on hysterosalpingography?**

a) Tuboplasty

b) In-vitro fertilization

c) Hydrotubation

d) Hysteroscopy and laparoscopy

Correct Answer - D

Ans. d. Hysteroscopy and laparoscopy (Ref The Infertility Manual/p266-267; Practical approach to infertility management by aillr Rcensal/p33:

- Hysteroscopy and laparoscopy would be the ideal management of a woman with infertility who is detected to have bilateral cornual block on hysterosalpingography.

**90. Which of the following is the least likely complication of pregnancy-induced hypertension?**

a) Renal failure

b) Pre-eclampsia

c) HELLP syndrome

d) Fetal macrosomia

Correct Answer - D

Ans. d. Fetal macrosomia (Ref- Dutta6/e , pg227)

Fetal macrosomia is the least likely complication of pregnancy-induced hypertension among the options provided.

**91. Normal functioning ovaries are seen in which of the following condition?**

a) Rokitansky-Kuster-Hauser syndrome

b) Turner syndrome

c) Sawyer syndrome

d) Androgen insensitivity syndrome

Correct Answer - A

Ans. a. Rokitansky-Kuster-Hauser syndrome (IR, f Shalt c Giner 14th/156-151 Vovaks Gynecology 14/e p1036) Normal functioning ovaries are seen in Rokitansky-Kuster-Hauser syndrome

## 92. What is the best time to give anti-D to a pregnant patient?

a) 12 weeks

b) 28 weeks

c) 36 weeks

d) After delivery

Correct Answer - B

Ans: B. 28 weeks

(Ref Williams 24/e p312; COGT 11/e p353; FERNANDO ARIAS 4/e p374).

- Best time to give anti-D to a pregnant patient is 28 weeks.  
**According to American College of Obstetricians and Gynecologists, 2010:**
- Anti-D immune globulin is given prophylactically to all Rh D-negative, unsensitized women at approximately 28 weeks.
- Second dose is given after delivery if the infant is Rh D-positive .

**93. What is the approved dose of misoprostol in emergent management of postpartum hemorrhage?**

a) 200 mcg

b) 400 mcg

c) 600 mcg

d) 1000 mcg

Correct Answer - C

Ans: C. 600 mcg

(Ref Williams 24/e p785)

- Approved dose of misoprostol in emergent management of postpartum hemorrhage = 600 pg.
- Misoprostol:**
- Derman (2006) compared a 600 pg oral dose given at delivery against placebo.
  - Drug decreased hemorrhage incidence from 12 to 6 percent & severe hemorrhage from 1.2 to 0.2 percent.

## 94. Ulipristal acetate is a/an:

a) GnRH agonist

b) Androgen antagonist

c) Selective estrogen receptor modulator

d) Selective progesterone receptor modulator

Correct Answer - D

Ans: D. Selective progesterone receptor modulator

(Ref Harrison 's 19/e p2391,- Goodman Gilman •12/e p1185)

### **Ulipristal:**

- Derivative of 19-norprogesterone.
- A selective progesterone receptor modulator (SPRM).
- Structurally similar to mifepristone.
- Unlike mifepristone, ulipristal is relatively weak glucocorticoid antagonist.

### **Moa:**

- Acts as a partial agonist at progesterone receptors.

## 95. All of these can be used for post-coital contraception except:

a) Desogestrel

b) Copper-T

c) Levonorgestrel

d) OCP

Correct Answer - A

Ans: A. Desogestrel

(Ref Williams 24/e p714).

- Desogestrel is not used as post-coital contraceptive.

### Drugs used for Emergency Contraception

Drug	Dose
Levonorgestrel	0.75 mg stat and after 12 hours°
Ethinyl estradiol 50 pg + Norgestrel 0.25 mg	2 tab stat and 2 after 12 hours°
Conjugated estrogen	15 mg BD x 5 days
Ethinyl estradiol	2.5 mg BD x 5 days
Mifepristone	Insertion of an IUCD within maximum period of 5-7 days after accidental unprotected exposure. It prevents implantation but is not suitable for women with multiple sex partners and for rape victims
Centchroman	2 tablets (60 mg) to be taken twice at an interval of 12 hours within 24 hours of intercourse

Ulipristal

intercourse.

Insertion of an IUCD within maximum period of 5-7 days after accidental unprotected exposure.

It prevents implantation but is not suitable for women with multiple sex partners and for rape victims.

## 96. Which of these is not a non-contraceptive use of levonorgestrel?

a) Endometriosis

b) Premenstrual tension

c) Complex endometrial hyperplasia

d) Emergency contraception

Correct Answer - B

Ans: B. Premenstrual tension

(Ref Williams 24/e p701: Goodman Gilman 12/e p1184, 1190)

- Pre-menstrual tension is not a non-contraceptive use of levonorgestrel.

**Therapeutic Uses – Levonorgestrel:**

**Emergency contraception:**

- Useful within 120 hours as emergency birth control.

**Idiopathic menorrhagia:**

- Excessively heavy, regular menses in the absence of intracavitary pathology or coagulopathy.

**Menometrorrhagia:**

- Excessive bleeding in amount prolonged in duration (regular or irregular intervals).
- An alternative delivery system - Protect against endometrial hyperplasia in women taking SERM.
- Management of recurrent pelvic pain secondary to multi- treated endometriosis.
- LNG-IUS is licensed for use in menorrhagia & to provide endometrial protection to perimenopausal & postmenopausal women on estrogen replacement therapy.
- LNG-IUS beneficial in endometriosis, adenomyosis, fibroids,

endometrial hyperplasia & early stage endometrial cancer (where the patient is deemed unfit for primary surgical therapy).

## 97. Modified BPP consists of:

a) NST with AFL

b) NST with fetal breathing

c) NST with fetal movement

d) NST with fetal tone

Correct Answer - A

Ans: A. NST with AFL

(Ref Williams 24/e p342, 343).

- Modified Biophysical profile consists of NST with amniotic fluid index.

### **Modified Biophysical Profile:**

- An abbreviated biophysical profile as first-line screening test by Clark and coworkers (1989).
- A vibroacoustic nonstress test performed twice weekly.
- Combined with amniotic fluid index determination.
- Amniotic fluid index < 5 cm considered abnormal.
- Performed in 10 minutes – Excellent antepartum surveillance method.
- No unexpected fetal deaths.

### **Modified biophysical profile test:**

- Predictive of fetal well-being complimentary to biophysical fetal surveillance – By American College of Obstetricians and Gynecologists and the American Academy of Pediatrics (2012).

**98. A G3P2, pregnant comes to your clinic at 18 weeks of gestation for genetic counselling. She has a history of two kids born with thalassemia major. Which test would you recommend now?**

a) Amniocentesis

b) Chorionic villus sampling

c) Cordocentesis

d) Non-invasive prenatal testing

Correct Answer - C

Ans: C. Cordocentesis

(Ref Williams 24/e p300; (Thai 8/e p341-344)

**Recommended test – Cordocentesis.**

- As patient is presenting at 18 weeks - Quick method diagnosing thalassemia antenatally needed.

**Note:**

- Legal age of abortion is only till 20 weeks.
- Fetal blood karyotyping accomplished within 24 to 48 hours.
- Significantly quicker than (7- to 10-day turnaround time with amniocentesis or CVS).

## 99. Estrogen and progesterone in the first 2 months pregnancy are produced by:

a) Fetal ovaries

b) Fetal adrenal

c) Placenta

d) Corpus luteum

Correct Answer - D

Ans: D. Corpus luteum

(Ref Williams 24/e p169; Ganong 25/e p412, 24/e p414).

- Estrogen and progesterone in first 2 months of pregnancy - Produced by Corpus luteum.
- Functions of corpus luteum:**
- Enlarged corpus luteum of pregnancy secretes estrogens, progesterone & relaxin.
  - Progesterone & relaxin -
    - Helps maintain pregnancy.
    - By inhibiting myometrial contractions.
    - Progesterone prevents prostaglandin production by uterus - Stops contractions.
    - Corpus luteum function begins to decline after 8 weeks of pregnancy.
  - Yet persists throughout pregnancy.
  - In humans placenta produces sufficient estrogen & progesterone from maternal & fetal precursor taking over corpus luteum function after 6th week of pregnancy.
  - Ovariectomy before 6th week → Hence cause abortion.
  - Ovariectomy after 6<sup>th</sup> week doesn't affect pregnancy.

**Note:**

- hCG secretion decreases after initial marked rise.
- Estrogen & progesterone secretion increase until just before parturition.

## 100. In the pelvic inlet, which is the shortest anteroposterior diameter?

a) True conjugate

b) Obstetric conjugate

c) Anatomical conjugate

d) Bispinous diameter

Correct Answer - B

Ans: B. Obstetric conjugate

- In pelvic inlet shortest anteroposterior diameter - Obstetric conjugate (10 cm).

**Pelvic inlet:**

**Four diameters:**

- Anteroposterior, transverse & two oblique diameters.

**Anteroposterior diameter:**

- Distinct with specific landmarks.
- Most cephalad - Hence, true conjugate.
- Extends from upper- most margin of the symphysis pubis to sacral promontory.
- Clinically important obstetrical conjugate is shortest distance between the sacral promontory and the symphysis pubis. Normally 10 cm or more.

**101. A 23-year-old lady taking antiepileptics for a seizure disorder gets married. When should folic acid supplementation advised to the patient?**

- a) Any time as soon as she presents to the clinic irrespective of pregnancy
- b) Three months before becoming pregnant
- c) 1st trimester
- d) As soon as pregnancy is confirmed

Correct Answer - A

Ans: A. Any time as soon as she presents to the clinic irrespective of pregnancy

- If a pregnancy is planned in high-risk women (previously affected child with neural tube defects), supplementation should be started with 4 mg (= 4000 microgram) of folic acid daily, beginning 1 month before the time of the planned conception.

**Recommendations:**

- By U.S. Public Health Service.
- Folic acid 0.4 mg daily - For all women of childbearing age & ones capable of becoming pregnant.
- Folic acid 4 mg (= 4000 microgram) daily - For planned pregnancy in high-risk women (previously affected child) - Beginning 1 month before time of planned conception.

## 102. Which of these is diagnostic of menopause?

a) Serum FSH > 40

b) Serum LH > 20

c) Serum FSH < 40

d) Serum estradiol < 30

Correct Answer - A

Ans: A. Serum FSH > 40

(Ref. Shaw's. 16/e p66. 15/e p62).

- Serum FSH > 40 IU/L is diagnostic of menopause.

### Criteria for Menopause

- **Estrogen (E2): 10-20 pg/ml° E2/E1 < 1°**
- **Estrone (E1): 30-70 pg/ml°** • Urine FSH > 40 IU/L°

### Laboratory diagnosis:

- **FSH & estrogen level** - Assess ovarian failure.
- Especially in premature ovarian failure case or women seeking treatment for infertility.

### FSH levels:

- Greater FSH level (>40 m IU/ml).
- Documents ovarian failure associated with menopause.

### Estrogen level:

- Normal/elevated - Depending on stage of menopausal transition.
- After menopause extremely low estrogen level.
- Evaluated to assess women's response to hormone replacement therapy.

### 103. What is the most likely cause for beaded appearance of fallopian tubes with clubbed ends of fimbriae on HSG?

a) Genital tuberculosis

b) Chlamydia

c) Neisseria gonorrhoea

d) Endometriosis

Correct Answer - A

Ans: A. Genital tuberculosis  
(Ref. Shaw's 16/e p111)

- Genital tuberculosis - Most likely cause for beaded appearance of fallopian tubes with clubbed ends of fimbriae on HSG.
- HSG (Hysterosalpingographic) findings:**
- Tubal occlusion in tuberculosis - Most common sign on HSG.
  - Occurs most commonly in isthmus & ampulla.
  - Shows as non-specific finding "Hydrosalpinx".
  - Specific pattern like "beaded tube", "golf club tube", "pipestem tube", "cobble stone tube" & "leopard skin tube".
  - Multiple constrictions along fallopian tube courses - Due to scarring.
  - Hence, 'beaded' appearance to tubes.
  - Scarring lead to a 'rigid pipe stem' appearance of tubes.

## 104. Which of these is seen in Asherman syndrome?

a) Oligomenorrhea

b) Hypomenorrhea

c) Metromenorrhagia

d) Polymenorrhea

Correct Answer - B

Ans: B. Hypomenorrhea

(Ref: Shaw's 16/e p250; Novaks 13/e p351)

**Hypomenorrhea:**

- Seen in Asherman syndrome

**Asherman's syndrome:**

- More common with secondary amenorrhea or hypomenorrhea.

**Causes:**

- In patients with risk factors for endometrial or cervical scarring (history of uterine or cervical surgery), infections related to IUD use & severe pelvic inflammatory disease.
- Found in 39% patients undergoing hysterosalpingography with previous postpartum curettage.
- **Rare cause:** Infections (tuberculosis & schistosomiasis).

**105. Which of the following statements is true about Swyer syndrome?**

a) Can be fertile with surrogacy

b) Can be fertile with ovum donation

c) Presents with primary fertility

d) Gonadectomy is indicated for all patients

Correct Answer - A

Ans: A. Can be fertile with surrogacy

(Ref Shaw's 16/e p145)

**Swyer syndrome:**

- Patients can be fertile with surrogacy, with ovum donation.
- Gonadectomy indicated for all patients due to malignancy risk.

## 106. What is the first sign of puberty in a girl?

a) Thelarche

b) Menarche

c) Adrenarche

d) Pubarche

Correct Answer - A

Ans: A. Thelarche

The first physical sign of puberty in girls is usually a firm, tender lump under the center of the areola of one or both breasts; occurring on average at about 10.5 years of age. This is referred to as thelarche.

### Order of Signs of Puberty

#### Males (TPAM)

Testicular enlargement (First sign)<sup>o</sup>  
Pubarche<sup>o</sup>  
Adrenarche<sup>o</sup>  
**Moustache & Beard<sup>o</sup>**

#### Females (TPM)

Thelarche (First sign)<sup>o</sup>  
Pubarche<sup>o</sup>  
Menarche<sup>o</sup>

### Onset of Puberty

#### Males

Growth of testes ( 24 mL in volume or 2.5 cm in longest diameter) & thinning of scrotum are first signs of puberty (11- 12 year)<sup>o</sup>. These are followed by pigmentation of scrotum &

#### Females

Breast development (thelarche) is usually first sign of puberty (10-11 years of age) Followed by the appearance of pubic hair (pubarche) 6-12 months later<sup>o</sup>.

growth of penis & by pubarche°. Interval to the onset of menstrual  
Appearance of axillary hair activity (menarche) is usually 2-2.5  
usually occurs in mid-puberty°. years, but may be as long as 6  
In males, unlike in females, years°. acceleration of growth is  
maximal at genital stages IV-V Peak height velocity occurs early  
(typically between 13 & 14 years (at breast stages 11-81 typically  
of age)°. between 11-12 years of age) in  
In males, growth spurt occurs girls and always precedes  
approximately 2 year later than menarche°. Mean age of menarche is  
in females & growth may approximately 12.75 years°.  
continue beyond 18 years  
of age°.

**107. If untreated, percentage of mother to child transmission of HIV during delivery without intervention in a non-breast fed child is:**

a) 40-50%

b) 10-15%

c) 15-30%

d) 5%

Correct Answer - C

**Answer- C. 15-30%**

'In the absence of any intervention, an estimated 15-30% of mothers with HIV infection will transmit the infection during pregnancy and delivery. and 10-20% will transmit the infection, through breast feeding. Vertical transmission of HIV-L occurs mostly during the intrapartum period (50-70%).'- COGDT 10/e p692

**108. A 26 years old healthy female got pregnant for 1st time and LSCS was done for fetal distress. Mild hypertension was present during pregnancy. Two days after delivery she had headache and seizures but proteinuria was not seen. CT scan shows 2 x 3 cm parasagittal hematoma. Diagnosis is:**

a) Eclampsia

b) Hypertensive intracranial hemorrhage

c) Sagittal sinus thrombosis

d) Pituitary apoplexy

Correct Answer - C

**Answer- C. Sagittal sinus thrombosis**

Venous sinus thrombosis of the lateral or sagittal sinus or of small cortical veins (cortical vein thrombosis) occurs as a complication of oral contraceptive use, pregnancy and the postpartum period, inflammatory bowel disease, intracranial infections (meningitis), and dehydration.

Patients present with headache and may also have focal neurologic signs (especially paraparesis) and seizures.

**109. A woman with 20 weeks pregnancy presents with bleeding per vaginum. On speculum examination, the os is open but no products have come out. The most likely diagnosis is:**

a) Incomplete abortion

b) Complete abortion

c) Inevitable abortion

d) Missed abortion

Correct Answer - C

**Answer- C. Inevitable abortion**

**Inevitable Abortion:**

- Clinical picture: Bleeding, pain and shock
- Size of uterus: Equal or less
- Internal os: Open with products felt
- Ultrasound: Dead fetus

**110. A 16 years old girl came for evaluation of primary amenorrhea. She was having hirsutism, irregular bleeding and infertility, diagnosed as PCOS. Which of the following drugs should not be given?**

a) Spironolactone

b) Tamoxifen

c) OCPs

d) Clomiphene citrate

Correct Answer - B

**Answer- B. Tamoxifen**

**Medical Treatment of PCOS**

- Estrogen best given with progesterone (combined OCPs) with no androgenic properties
- Hirsutism is treated with cyproterone acetate or spironolactone.
- Infertility is treated with Clomiphene, 80% ovulate and 40% conceive.
- In Clomiphene failed group, ovulation can be induced with FSH or GnRH analogues.
- Metformin treats the root cause of PCOS, rectifies endocrine and metabolic functions and improves fertility and is drug of choice.

**111. All of the following are risk factors of cervical cancer except?**

a) Low parity

b) Multiple partners

c) Early sexual intercourse

d) Smoking

Correct Answer - A

**Answer- A. Low parity**

Multiparity (not the low parity), Multiple partners, Early sexual intercourse and Smoking are the risk factors for carcinoma cervix.

**112. All of the following indicate superimposed pre-eclampsia in a pregnant female of chronic hypertension except: (Asked twice)**

a) New onset proteinuria

b) Platelet count < 75,000

c) Increase in systolic BP by 30 mm Hg and diastolic by 15 mm Hg

d) Fresh retinal hypertensive changes

Correct Answer - C

**Answer- C. Increase in systolic BP by 30 mm Hg and diastolic by 15 mm Hg**

- Severe range BP despite escalation of antihypertensive therapy, Thrombocytopenia (Platelet count < 1,00,000/mL)
- Elevated liver transaminases (two times the upper limit of normal concentration for particular laboratory)
- New onset and worsening renal insufficiency
- Pulmonary edema.
- Persistent cerebral or visual disturbances

**113. All of the following can be administered in acute hypertension during labour except:**

a) IV labetalol

b) IV nitroprusside

c) IV dihydralazine

d) IV diazoxide

Correct Answer - D

**Answer- D. IV diazoxide**

Both nitroprusside and diazoxide are pregnancy category C drugs, should not be used during pregnancy). But as the question specifically asks 'during labour', if diazoxide is given during labor, it may stop uterine contractions, requiring use of an oxytocic agent. The better answer to go with is diazoxide.

**114. All of the following indicate superimposed pre-eclampsia in a pregnant female of chronic hypertension except:**

a) New onset proteinuria

b) Platelet count < 75,000

c) Increase in systolic BP by 30 mm Hg and diastolic by 15 mm Hg

d) Fresh retinal hypertensive changes

Correct Answer - C

**Answer- C. Increase in systolic BP by 30 mm Hg and diastolic by 15 mm Hg**

- Severe range BP despite escalation of antihypertensive therapy, Thrombocytopenia (Platelet count < 1,00,000/mL)
- Elevated liver transaminases (two times the upper limit of normal concentration for particular laboratory)
- New onset and worsening renal insufficiency
- Pulmonary edema.
- Persistent cerebral or visual disturbances

**115. All of the following are true about augmentation of labor except:**

a) Twin pregnancy precludes the use of oxytocin

b) Amniotomy decreases the need for oxytocin use

c) Methods of augmentation does not increase the risk of operational management

d) Associated with a risk of uterine hyper stimulation

Correct Answer - A

Answer- A. Twin pregnancy precludes the use of oxytocin

- 'Augmentation of labour is the process of stimulating the uterus to increase the frequency, duration and intensity of contractions after the onset of spontaneous labour. It has commonly been used to treat delayed labour when poor uterine contractions are assessed to be the underlying cause. The traditional methods of labour augmentation have been with the use of intravenous oxytocin infusion and artificial rupture of the membranes (amniotomy).

**116. All of the following are reversible long acting contraceptives except:?**

a) Copper T

b) Laparoscopic tubal ligation

c) LNG- IUS

d) Implanon

Correct Answer - B

**Ans. b. Laparoscopic tubal ligation**

- Intrauterine device (IUD), also known as long-acting reversible contraception (LARC).
- Laparoscopic tubal ligation is the most common modality of pregnancy prevention. It is irreversible in nature.
- Spring-loaded clip (Filshie clip, Hulka clip) or Silastic rubber band (Falope ring) are most commonly used.
- Destruction or removal of a segment of the oviduct is performed in an operating room through a transabdominal approach usually using a laparoscopy or minilaparotomy.
- An ectopic pregnancy should be ruled out; if the procedure fails.
- Failure rate is 1 in 200.

**117.**

**Injury to which of the following deep part of perinea! body causes cystocele, enterocele and urethral descent?**

a) Pubococcygeus

b) Ischiocavernosus

c) Bulbospongiosus

d) Sphincter of urethra and anus

Correct Answer - A

Ans. a. Pubococcygeus

When the pubococcygeus muscle contracts, it pulls the rectum, vagina, and urethra anteriorly toward the pubic bone and constricts the lumens of these pelvic organs. It is this contractile property that is so important in maintaining urinary and fecal continence and in providing support for the genital organs (vagina, cervix, uterus) that lie upon and are supported by the levator plate. Injury to pubococcygeus can lead to rectocele, cystocele and urinary incontinence.

**118. An 18 years old girl presents with primary amenorrhea. On evaluation, she was having a karyotype of 45X0 and infantile uterus. What should he done next?**

a) **HRT** to induce puberty

b) Vaginoplasty

c) Clitoroplasty

d) Bilateral gonadectomy

Correct Answer - D

Ans. d. Bilateral gonadectomy

History of primary amenorrhea, karyotype of 45X0 & infantile uterus is suggestive of Turner's syndrome. Approximately 5% of women with Turner's syndrome have a karyotype with Y chromosome (45X/46XY). It is important to identify a Y chromosome because affected individuals are at significant risk of gonadoblastoma (20 to 30%). Therefore, prophylactic gonadectomy should be performed.

**119. Pregnant women with following is called systemic hypertension:**

a) Hypertension diagnosed at 10 weeks of gestation

b) Diabetic retinopathy

c) Diabetic nephropathy

d) Episode of seizure

Correct Answer - A

Ans. a. Hypertension diagnosed at 10 weeks of gestation

Chronic underlying hypertension or systemic hypertension is diagnosed in women with documented blood pressures  $> 140/90$  mm Hg before pregnancy or before 20 weeks' gestation, or both.

**120. Which of the following is done for screening of Down's syndrome in first trimester?**

a) Beta HCG and PAPP-A

b) Unconjugated estradiol and PAPP-A

c) AFP and Inhibin A

d) AFP and Beta HCG

Correct Answer - A

**Ans: A. Beta HCG and PAPP-A**

**1<sup>st</sup> trimester aneuploidy screening:**

- Human chorionic gonadotropin (either intact or free ( $\beta$ -hCG)).
- Pregnancy-associated plasma protein A (PAPP-A).

**Fetal Down syndrome in 1<sup>st</sup> trimester:**

- Higher serum free beta-hCG level.
- Lower PAPP-A levels.

**Trisomy 18 & 13:**

- Lowered levels of both HCG PAPP-A.

**2<sup>nd</sup> trimester analytes:**

- Serum integrated screening.

**Accuracy of aneuploidy detection:**

- Greater on combination with,
- Sonographic NT measurement.

**121. What dose of misoprostol is used orally to control bleeding in post partum hemorrhage?**

a) 400 micrograms

b) 600 micrograms

c) 800 micrograms

d) 1000 micrograms

Correct Answer - B

**Ans: B. 600 micrograms**

(Ref Williams 24/e 1785)

- Approved dose of misoprostol in emergent management of postpartum hemorrhage = 600 µg.
- **Misoprostol (Cytotec):**
- Synthetic prostaglandin E1 analogue.
- Effective in prevention & treatment of atony & postpartum hemorrhage.
- Derman (2006) compared a 600 µg oral dose given at delivery against placebo and found that the drug decreased hemorrhage incidence from 12 to 6 percent and that of severe hemorrhage from 1.2 to 0.2 percent.

## 122. What is the maximum capacity of Bakri balloon which is used in post partum hemorrhage?

a) 200 mL

b) 300 in L

c) 500 mL

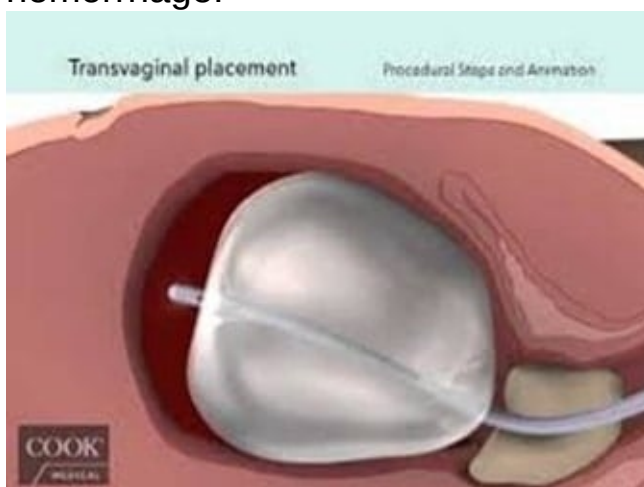
d) 1000 m L

Correct Answer - C

**Ans: C. 500 mL**

**Bakri balloon:**

- Inserted & inflated to tamponade endometrial cavity to stop bleeding.
- Initially started by rapidly infusing at least 150 mL followed by further instillation over a few minutes for a total of 500 mL to arrest hemorrhage.



**123. Which of the following increases callus formation:**

a) Rigid immobilization

b) Movement at fracture site

c) Compression plating

d) Intraosseous nailing

Correct Answer - B

**Ans: B. Movement at fracture site**

(Ref Apley 9/e p689)

Micro movements at fracture site encourages vascular proliferation → Increases callus formation.

## 124. Double bleb signs in USG are depictive of:

a) Intrauterine two gestations sac

b) Amniotic sac and yolk sac

c) Ectopic pregnancy

d) Heterotopic pregnancy

Correct Answer - B

Ans: B. Amniotic sac and yolk sac

(Ref. Williams 24/e p170)

- A double bleb sign is a sonographic feature where there is visualization of a gestational sac containing a yolk sac and amniotic sac giving an appearance of two small bubbles.
- The embryonic disc is located between the two bubbles. It is an important feature of an intrauterine pregnancy and thus distinguishes a pregnancy from a pseudogestational sac or decidual cast cyst.

**125. All of the following increase at full term in pregnancy except:**

a) Minute volume

b) GFR

c) Blood volume

d) Cardiac output

Correct Answer - D

**Ans: D. Cardiac output**

(Ref Dutta 8/e p60-61, 7/e p51-53; Williams 24/e p59)

- Cardiac output increases from the fifth week of pregnancy and reaches its maximum levels at approximately 32 weeks, after which there is only a slight increase until labor, delivery, and the postpartum period

**126. A 26 years old female presented with mild pain in lower abdomen. She has had 2 full-term normal delivery earlier. Her last menstrual period was 3 weeks back. On pelvic examination, you find a palpable mass in the adnexa. On USG pelvis, you find a 5 cm ovarian cyst. What should be your next step?**

a) Observation and follow-up for cyst after 2-3 months

b) CA-125 levels

c) Diagnostic exploratory laparotomy

d) CECT of pelvis

Correct Answer - A

**Ans: A. Observation and follow-up for cyst after 2-3 months**

(Ref: Shaw's 15/e p369)

- The patient is premenopausal, 3 weeks after LMP (likely to have ovulated) with a 5 cm cyst.
- The scenario presented here likely represents the patient having a corpus luteum cyst.
- These cysts need not be approached aggressively unless causing significant symptoms.

**127. An episiotomy is to be performed in a primigravida in labor. Which of these is an advantage of mediolateral episiotomy over midline episiotomy?**

a) Less chance of extension

b) Can be repaired at ease

c) Fewer breakdown

d) Lesser blood loss

Correct Answer - A

**Ans: A. Less chance of extension**

(Ref: Williams 24/e p551).

- A mediolateral episiotomy is preferred because it has a much lesser chance of extension through the perineum till anal sphincter, though there is increased risk of blood loss and it is difficult to repair.

**128. A 22 years old gravida 3 para 2 lady delivers a normal child followed by delivery of an intact placenta. Following delivery, the lady develops severe per vaginal bleeding after 30 minutes. On table sonogram revealed retained placental tissue. What is the suspected type of placenta?**

a) Membranous placenta

b) Placenta fenestrae

c) Placenta accreta

d) Placenta succenturiata

Correct Answer - D

Ans: D. Placenta succenturiata

Succenturiate  
lobe

Small accessory lobes develop at a small distance from the main placenta°.

These lobes have vessels that course through the membranes°.

If these vessels overlies the cervix to create a vasa previa, they can cause dangerous fetal hemorrhage if torn°.

An accessory lobe may be retained in uterus after delivery & cause postpartum uterine

**129. A 30 years old G3P2 with 10 weeks of amenorrhea comes with an intrauterine pregnancy with intra uterine contraceptive device in situ. On pelvic examination, the string of the IUCD was visible at the cervical os. Patient wishes to continue pregnancy. What will you do?**

a) Leave IUCD and continue pregnancy

b) Terminate pregnancy because of high risk of infections

c) Continue pregnancy with use of antibiotics throughout pregnancy

d) Remove intrauterine contraceptive device

Correct Answer - D

**Ans: D. Remove intrauterine contraceptive device**

(Ref: Dutta 8le p618-619, 6le p540)

- Women who become pregnant with an IUCD in situ should be informed of the increased risks of second-trimester miscarriage, preterm delivery and infection if the intrauterine method is left in situ.
- Removal would reduce adverse outcomes but is associated with a small risk of miscarriage.

**130. A primigravida came to the labor room at 40 weeks + 5 days gestation for induction of labor. On per vaginal examination, the cervix is 1 cm dilated and 30% effaced. The vertex is at —1 station and the cervix is soft and posterior. What will be the modified bishop score for this lady?**

a) 0

b) 3

c) 5

d) 8

Correct Answer - C

**Ans: C. 5**

(Ref: Williams 24le p525-526; Dutta 8le p600, 7/e p722)

- Cervical Station: -1 = 2; Cervical Dilatation: 1 cm = 1; Effacement: 30% = 0 ; Cervix Position: Posterior = 0; Consistency: Soft = 2.
- Hence, Bishop Score = 5.

Bishop Scoring System Used for Assessment of Inducibility

Dilatation (cm)	Effacement (%)	Cervical Factor		
		Station (-3 to +2)	Consistency	Position
Closed	0-30	-3	Firm	Posterior
1-2	40-50	-2	Medium	Midposition
3-4	60-70	-1	Soft	Anterior

>\_5

?80

+1, +2

-

-

**131. A 45 years old patient presented with complaints of pain in abdomen and menorrhagia. Endometrial biopsy was normal and sonogram of uterus showed diffusely enlarged uterus with no adnexal mass. What is the diagnosis?**

a) Fibroid uterus

b) Endometritis

c) Endometriosis

d) Adenomyosis

Correct Answer - D

**Ans: D: Adenomyosis**

*(Ref: Shaw's 16le p413-413, 13/c p4T 3; Novak's 13le p184; Robbins 9le p1012)*

Clinical features like abdominal pain and menorrhagia with normal endometrial biopsy and on ultrasound diffuse, symmetrical enlargement of uterus, in a perimenopausal women without any focal lesion is highly suggestive of Adenomyosis.

Clinical symptoms include menometrorrhagia (irregular and heavy menses), colicky dysmenorrhea, dyspareunia, and pelvic pain, particularly during the premenstrual period.

Coexist with endometriosis.

Often asymptomatic.

Uterus is diffusely enlarged, although usually less than 14 cm in size, and is often soft and tender, particularly at the time of menses.

**132. Which is the most common congenital abnormality in a baby of a diabetic woman?**

a) Ventricular septal defect

b) Anencephaly

c) Meningomyelocele

d) Sacral agenesis

Correct Answer - A

**Ans: A Ventricular septal defect**

*(Ref. Nelson 20/e p898)*

Most common congenital abnormality in a baby of diabetic women is ventricular septal defect.

Congenital anomalies are increased threefold in infants of diabetic mothers.

**Most common anomalies:**

- Cardiac malformations (ventricular or atrial septal defect, transposition of the great vessels, truncus arteriosus, double-outlet right ventricle, tricuspid atresia, coarctation of the aorta).
- Lumbosacral agenesis.

**Additional anomalies:**

- Neural tube defects, hydronephrosis, renal agenesis and dysplasia, duodenal or anorectal atresia, situs in versus, double ureter, and holoprosencephaly.
- These infants may also demonstrate abdominal distention caused by a transient delay in development of the left side of the colon, the small left colon syndrome.

**133. A midwife at a PI-IC is monitoring pregnancy and maintaining the partograph of pregnancy progression. At how much cervical dilation should the partograph plotting be started?**

a) 4 cm

b) 5 cm

c) 6 cm

d) 8 cm

Correct Answer - A

Answer- A. 4 cm

Partograph recording is usually started after a cervical dilation of 3 cm (not the 4 cm), i.e. the active stage of labor. As 3 cm is not given in the option, we have to choose 4 cm.

**134. A pregnant woman at 36-week of gestation is admitted in your ward. During the morning rounds, she is lying supine as shown in the figure. What syndrome has been depicted below?**

a) Superior vena cava syndrome

b) Supine vena cava syndrome

c) Abdominal aorta syndrome

d) Inferior vena cava syndrome

Correct Answer - B

Answer- B. Supine vena cava syndrome

- Supine vena cava syndrome or sortocaval compression syndrome is compression of the abdominal aorta and inferior vena cava by the gravid uterus when a pregnant woman lies on her back, i.e. in the supine position.
- "Supine Hypotension: In approximately 10 percent of women, supine compression of the great vessels by the uterus
- causes significant arterial hypotension, sometimes referred to as the supine hypotensive syndrome. Also when supine,
- uterine arterial pressure-and thus bloodflow-is significantly lower than that in the brachial artery. This may directly
- affect fetal heart rate patterns. These changes are also seen with hemorrhage or with spinal analgesia.

**135. What is the next step in management of a 32 years old woman with a 5 years history of primary infertility with bilateral tubal block seen at cornu on hysterosalpingogram?**

a) In vitro fertilization

b) Laparoscopy and hysteroscopy

c) Intracytoplasmic sperm injection

d) Tuboplasty

Correct Answer - B

Answer- B. Laparoscopy and hysteroscopy

Bilateral tubal block at cornu should be confirmed using Laparoscopy and hysteroscopy (Chromopertubation test), which is the gold standard. Treatment of choice will be tuboplasty, but other causes like spasm should be ruled out as hysterosalpingogram is not a very reliable test.

**136. A middle-aged woman came to OPD with a twin pregnancy. She already had 2 first trimester abortion and she has a 3 years old female child who was born at the end of ninth month of gestation. Which of the following is her accurate representation?  
C = gravid, P = para?**

a) G4P1 1+2+1

b) G4P1 0+1+2

c) G5P1 2+0+1

d) G5P0 1+0+2

Correct Answer - B

Answer- B. G4P1 0+1+2

- The nomenclature for this question is based on a system called GTPAL system
- Gravida and parity: Gravida denotes a pregnant state both present and past, irrespective of the period of gestation.
- Parity denotes a state of previous pregnancy beyond the period of viability

**137. Which of the following abnormalities can be diagnosed in the 1<sup>st</sup> trimester of pregnancy?**

a) Anencephaly

b) Encephalocele

c) Meningocele

d) Microcephaly

Correct Answer - A

Answer- A. Anencephaly

"Anencephaly is diagnosed by the absence of cranial vault (calvarium) and telencephalon. Brain tissue is angiomatous.

Early diagnosis is possible at about 13 weeks

### 138. True about significant variable decelerations is:

a) Drop in fetal heart rate to less than 90 bpm for 60 sec

b) Drop in fetal heart rate to less than 100 bpm for 60 sec

c) Drop in fetal heart rate to less than 80 bpm for 60 sec

d) Drop in fetal heart rate to less than 70 bpm for 60 sec

Correct Answer - D

Answer- D. Drop in fetal heart rate to less than 70 bpm for 60 sec

#### **Classification of Variable Decelerations**

- Mild - >80 bpm irrespective of duration or <30 seconds irrespective of depth or 70-80 bpm lasting for 60 seconds
- Moderate - >70 bpm lasting for 30-600 seconds or 70-80 bpm lasting for > 60 seconds
- Severe - <70 bpm lasting at least 60 seconds

**139. A 24 years old female presented with amenorrhea for 3 months. LH and FSH levels are elevated three times the normal value. What is the next best step?**

a) Urinary HCG level

b) Check serum estradiol levels

c) Progesterone challenge test and look for withdrawal bleeding

d) Ultrasound of abdomen and pelvis

Correct Answer - B

Answer- B. Check serum estradiol levels

LH and FSH levels by the third month of pregnancy are steady at a low level. HCG takes over the function of LH after fertilization and inhibits production of LH. Inhibin A produced by fetal trophoblasts suppresses maternal FSH secretion. Hence, 3 times elevation of LH and FSH points towards premature ovarian failure. Serum estradiol levels should be measured to confirm the diagnosis

**140. Maximum risk of ureter injury is seen after:**

a) Vaginal hysterectomy

b) Wertheim's hysterectomy

c) Laparoscopic abdominal hysterectomy

d) Anterior colporrhaphy

Correct Answer - B

Answer- B. Wertheim's hysterectomy

Radical or Wertheim's hysterectomy is associated with the highest risk of ureteric injury. The risk of ureteral injury at vaginal hysterectomy is higher (0.6%) than with an open abdominal approach (0.07%).

**141. A 61 years old post-menopausal woman with a family history of ovarian cancer presents with pain abdomen. She is on hormone replacement therapy. An abdominal ultrasound revealed a smooth cyst in the right ovary. What should be done next?**

a) Observe and reassure the patient

b) Laparoscopic surgery to visualize the nature of the cyst

c) Drilling of cysts

d) Check CA-125 levels and advise regular follow-up if normal

Correct Answer - D

Answer-D. Check CA-125 levels and advise regular follow-up if normal

- This is a post-menopausal patient with a simple (smooth) cyst in the ovary. Such a cyst doesn't need further investigations,
- but this patient has two risk factors for malignancy: Family history of ovarian tumor and history of Hormonal therapy.
- Hence, CA-125 levels should be evaluated and the RMI-I score (Risk of Malignancy index) calculated before proceeding
- for regular follow up. If RMI score exceeds 200, further imaging laparoscopic surgery will be needed in this patient.

**142. A midwife at a PHC did per vaginal examination of a women in labor with 8 cm cervical dilation and 70% cervical effacement with the fetal head at +1 station. This +1 station implies the position of fetal head is-**

a) 1 cm above the ischial spine

b) 1 cm below the ischial spine

c) At the level of ischial spine

d) 1 cm below the cervical os

Correct Answer - B

Answer-B. 1 cm below the ischial spine

Station describes descent of the fetal biparietal diameter in relation to a line drawn between maternal ischial spines. Thus +1 station implies fetal head is 1 cm below the ischial spine.

**143. A 32 years old female came for routine PAP smear testing. The report came as carcinoma in situ. What is the next step?**

a) HPV-DNA testing

b) Hysterectomy

c) Conization

d) Colposcopy and biopsy

Correct Answer - D

Answer- D. Colposcopy and biopsy

- Regressions typically occur within a 2-year follow-up with cytology & colposcopy.
- Observation - Biopsy diagnoses of CIN 1 with satisfactory colposcopy and who agree to the evaluation every 6 months
- Ablative treatment - If the lesions progress during follow-up or persist at 2 years
- Treatment options: LEEP & Cryosurgery

**144. A Rh-negative mother, who has Indirect Coombs Test (ICT), negative was given Anti-D during 28 weeks of pregnancy. Which of the following is the ideal one?**

a) Give another dose of Anti-D 72 hours postpartum depending on the baby blood group

b) Give another dose of Anti-D 72 hours postpartum irrespective of baby blood group

c) No need of additional dose since she is ICT negative

d) All of the above

Correct Answer - A

Answer- A. Give another dose of Anti-D 72 hours postpartum depending on the baby blood group

- ACOG (2010) recommends anti-D immune globulin to be given prophylactically to all Rh D-negative, unsensitized women at approximately 28 weeks, and a second dose given after delivery if the infant is Rh D-positive. Before the 28-week dose of anti-D immune globulin, repeat antibody screening is recommended to identify individuals who have become alloimmunized. Following delivery, anti-D immune globulin should be given within 72 hours.

## 145. In endometriotic lesions, histology represents its:

a) High estrogen

b) Low insulin

c) High levels of prolactin

d) High cholesterol

Correct Answer - A

Answer- A. High estrogen

### **Diagnosis:**

- Laparoscopy is gold standard for diagnosis of endometriosis.
- Powder burn or matchstick spots are seen on laparoscopy.
- CA-125 >35 U/mL may be used as evidence of recurrence.

### **Laparoscopic Findings**

- Unless disease is visible in the vagina or elsewhere, laparoscopy is the standard technique for visual inspection of pelvis and establishment of a definitive diagnosis
- Characteristic findings include typical "Powder burn or gun shot" lesions on the serosal surface of peritoneum.
- In the presence of ovarian endometrioma >3cm in diameter and deeply infiltrative disease, histology should be
- obtained to identify endometriosis and to exclude rare instance of malignancy

**146. Which of the following is the most useful parameter according to WHO in assessing adequacy of sperms for fertilization?**

a) Spermatocyte count

b) Spermatocyte motility

c) Semen volume

d) Spermatocyte morphology

Correct Answer - D

Answer- D. Spermatocyte morphology

Evaluation and assessment of semen is very important for both diagnosis of male infertility and selection of patienti for treatment with IVF or ICSI. It has been shown that sperm morpholugt assessed strictly is most strongly related to fertilization rafe than other parometers. In the WHO guidelines for Normal semen analysis, Sperm morphology, ie. > 4% normal forms is the only strict criteria for sperm adequacy.

**147. A lady delivered a normal vaginal delivery and was discharged. On third day she came back with fever, tachycardia and seizures. Fundus showed papilledema with no focal deficits. What is the most likely diagnosis?**

a) Cortical vein thrombosis

b) Meningitis

c) Subarachnoid hemorrhage

d) Acute migraine

Correct Answer - A

Answer- A. Cortical vein thrombosis

Cortical Vein Thrombosis (CVT)

Incidence of CVT is increased during pregnancy & in puerperium

Incidence appears higher in developing countries.

**Predisposing Factors:**

- Prothrombotic conditions, OCPs, pregnancy, puerperium
- Malignancy, infection & head injury

**Clinical Features:**

- MC presenting symptom: Headaches (of gradual, acute, or thunderclap onset)
- Associated features may include focal neurological signs, seizures and coma.

**Diagnosis:**

- Diagnosis is done with MR venography.

**Treatment:**

- Anticonvulsants for seizures; heparinization is recommended by most, its efficacy is controversial.
- Antimicrobials for septic thrombophlebitis
- Fibrinolytic therapy is reserved for those women failing systemic anticoagulation

**148. According to WHO guidelines, which of the following is true about management of second stage of labor?**

a) Manual support of perineum to maintain continuous deflexion of head

b) Episiotomy should be performed as a routine

c) A warm cloth should be applied to the perineum to prevent trauma

d) Delivery should be ideally performed in a lithotomy position

Correct Answer - A

Answer- A. Manual support of perineum to maintain continuous deflexion of head

- Do not perform perineal massage in 2nd stage of labor.
- Either the 'hands on' (guarding the perineum & deflexing the baby's head) or the 'hands poised' (with hands off the perineum and baby's head but in readiness) technique can be used to facilitate spontaneous birth.
- Do not offer lidocaine spray to reduce pain in 2nd stage of labor.
- Do not carry out a routine episiotomy during spontaneous vaginal birth.
- Do not offer episiotomy routinely at vaginal birth after previous third- or fourth-degree trauma

**149. A female is on Mala N for contraception. After the end of the first strip, there was no withdrawal bleeding. What should be done?**

a) Start next cycle of tablets from 5th day

b) Start next cycle from next day

c) Urgent visit to hospital and check for pregnancy

d) Take two pills after 12 hours

Correct Answer - C

**Ans. C. Urgent visit to hospital and check for pregnancy**

*Ref IHO guidelines; CDC guidelines*

- After ruling out pregnancy, next cycle of OCPs can be started.

**150. A pregnant female with known cardiac disease presents to you in the first trimester with history of warfarin embryopathy what should be advised now?**

a) Continue warfarin throughout the pregnancy

b) Replace warfarin with heparin in First trimester

c) Give acicoumarin

d) Use LMW heparin

Correct Answer - B

**Ans. B. Replace warfarin with heparin in First trimester**

*Ref: Williams Obstetrics, 24'h ed.*

- Warfarin has a low molecular weight and readily crosses the placenta.
- Exposure between the 6th and 9th weeks may result in warfarin embryopathy characterized by stippling of the vertebrae and femoral epiphyses and by nasal hypoplasia with depression of the nasal bone.

**151. A 25-year-old lady with submucosal fibroid was undergoing myomectomy. The surgeon was using 1.5% glycine as irrigating fluid for the cavity. During the surgery the nurse informs the surgeon that there is a 500ml fluid deficit. What is the next step to be done?**

a) Stop the surgery

b) Change the fluid to normal saline

c) Continue the surgery with careful monitoring of fluid status

d) Give furosemide to the patient and continue surgery

Correct Answer - C

**Ans. C. Continue the surgery with careful monitoring of fluid status**

*Ref. BSGE/ESGE guideline on management of fluid distension metlia in operative hysteroscopy.*

- Asymptomatic hypervolemia can be managed by fluid restriction with or without diuretics.
- Patient should be observed for symptoms of hyponatremia and continued electrolyte monitoring should be done.

**152. While performing Burch operation there was significant bleeding and pooling of blood in the space of Retzius. The source of bleeding cannot be visualized. What is the next step in the management?**

a) Call vascular surgeon

b) Give a generalized suture in bleeding area

c) Lift endopelvic fascia by putting fingers in vagina

d) Placing surgical drain

Correct Answer - C

**Ans. C. Lift endopelvic fascia by putting fingers in vagina**

- Burch colposuspension (retropubic urethropexy) involves the attachment of the fascia at the level of the bladder neck to the iliopectineal ligament (Cooper's ligament).
- It is an abdominally performed surgery for stress urinary incontinence .

**153. Which of the following is the important marker of male infertility in semen analysis?**

a) Motility

b) Concentration

c) Volume

d) Sperm Count

Correct Answer - B

Ans. B. Concentration

*Ref: Clinical Gynecologic Endocrinology Infertility, 8' ed.*

- Sperm concentration and progressive motility is important in distinguishing fertile from infertile men but strict sperm morphology is one of the most discriminating value.

**154. A 32 weeks pregnant female presented with labor pains and minimal vaginal discharge, on analysis of the cervicovaginal discharge showed fibronectin. What is the probable diagnosis?**

a) Preterm labour

b) IUGR

c) IUD

d) Cervical infection

Correct Answer - A

**Ans. A. Preterm labour**

Ref: Williams Obstetrics 24' ed.

- Fibronectin can be detected in cervicovaginal secretions before membrane rupture and is a marker for impending preterm labour.
- It reflects stromal remodelling of the cervix before labour.
- It is measured using an enzyme-linked immunosorbent assay, and values exceeding 50 ng/mL are considered positive

**155. A lady presented with 7 weeks amenorrhea presented with slight vaginal spotting. CRL was 5mm with well-formed gestational sac with calculated GA of 5.6 weeks on TVS. Next line of management?**

a) Wait for another 1 week and repeat TVS

b) Surgical or medical evacuation

c) Wait for another 4 weeks

d) Serum hCG levels

Correct Answer - A

Ans: A. Wait for another 1 week and repeat TVS

Ref: *Williams obstetrics, 24<sup>th</sup> ed.*

- An intrauterine gestational sac is reliably visualized with transvaginal sonography by 5 weeks, and an embryo with cardiac activity by 6 weeks.
- The embryo should be visible transvaginally once the mean sac diameter has reached 20 mm, otherwise the gestation is anembryonic.
- Cardiac motion is usually visible with transvaginal imaging when the embryo length has reached 5 mm. If an embryo less than 7 mm is not identified to have cardiac activity, a subsequent examination is recommended in 1 week.

**156. Following are the features of the color of normal amniotic fluid during delivery?**

a) Milky to yellowish green with mucus flakes

b) Amber colored

c) Clear colorless to Pale Yellow

d) Golden color

Correct Answer - C

Ans: C. Clear colorless to Pale Yellow

*Ref: DC Dutto's textbook of Obstetrics, 9<sup>th</sup> ed.*

- Green yellow with flakes (meconium stained)- Fetal distress
- Golden color- Rh incompatibility Greenish Yellow (saffron)- postmaturity
- Dark colored - concealed accidental hemorrhage
- Dark brown (tobacco juice)- Intrauterine demise

**157. A pregnant female delivered a baby with normal expulsion of an intact placenta. After half hour she started bleeding per vaginally. On examination she was hypotensive and boggy mass is palpated per abdomen. USG showed retained placental tissues. what is the likely diagnosis?**

a) Placenta succenturiata

b) Adenomyosis

c) Placenta accreta

d) Membranous placenta

Correct Answer - A

Ans: A. Placenta succenturiata

*Ref: DC Dutta's textbook of Obstetrics, 9th ed.*

- Placenta succenturiata has one (usual) or more small lobes of placenta placed at a varying margin from the main placental margin.
- A leash of vessels connects the small lobe with the main lobe.
- Many times, succenturiate is retained and it presents as postpartum hemorrhage which may be primary or secondary.

**158. A female come to gynaecoPD for preconceptual counseling, with history of two second trimester abortions. What is the next investigation you will advice**

a) TVS

b) hysteroscopy

c) Endometrial biopsy

d) chromosomal abnormalities

Correct Answer - A

Ans: A. TVS

*Ref: Williams Obstetrics 24h ed"*

- Most common cause of second trimester abortion is cervicouterine abnormalities.
- Next step would be to do an ultrasound and look for any structural uterine anomaly.
- Chromosomal abnormalities are common cause of aboftions in first trimester.

**159. A pregnant female presents with prolonged labor in emergency. She is taken for cesarean section. What is the correct position in which the nurse should keep the patient on OT table?**

a) Supine with wedge under right hip

b) Semi fowlers

c) Trendelenburg with legs in stirrup

d) Prone position

Correct Answer - B

Ans: B. Semi fowlers

*Ref DC Dutta's textbook of Obstetrics, 8th ed.*

- In caesarean section, patient is placed in supine position. In order to prevent venocaval compression, 15-degree tilt is given by placing a wedge under the right hip till delivery of the baby

**160. A pregnant woman with G3P2L0 presented to you with a pregnancy at period of gestation of 9 weeks. She has a history of conization one year back currently on follow up with no recurrence on PAP smean She also has the history of preterm births at 30 and 32 weeks during her last 2 pregnancy. What is your next step in the management of this patient?**

a) USG to see cervical length

b) Cervical cerclage

c) Complete bed rest

d) Abdominal cerclage

Correct Answer - A

Ans: A. USG to see cervical length

*Ref NICE guidelines; ACOG guidelines; SOGC guidelines.*

- The current review from ACOG recommends cervical cerclage for women with a current singleton pregnancy, prior spontaneous preterm birth at less than 34 weeks of gestation, and cervical length less than 25 mm.

**161. A 28-year-old woman underwent induced ovulation. On uSG, ovary showed 8 follicles. Serum estradiol level was 800 pg/ml. What is the next step in the management of this patient?**

a) Retrieve follicles

b) Give cabergoline

c) Cancel cycle

d) Withhold HCG

Correct Answer - A

Ans: A. Retrieve follicles

Ref: Berek and Novak's Gynaecology

- Day of analysis of above measurements and size of follicles are not specified in the question. So, presuming these parameters to be measured on the mid cycle, next step according to the options would be to retrieve follicles.

**162. Arrange the following steps in sequence as it occurs in spermatogenesis.**

a) Spermatocyte

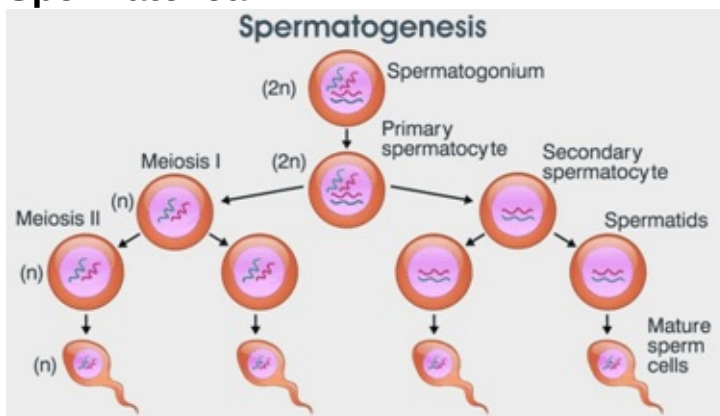
b) Spermatogonia

c) Spermatozoa

d) Spermatid

Correct Answer - A:B:C:D

**Ans-b) Spermatogonium > a) Spermatocyte > d) Spermatid > c) Spermatozoa**



**163. Chicken pox infection in mother most dangerous for the baby when it occurs at**

-

a) 14-28 weeks

b) 3 -9 weeks

c) 28-37weeks

d) 8-14weeks

Correct Answer - C

**Ans. C. 28-37weeks**

- Before 28 weeks pregnant: there's no evidence you are at increased risk of suffering a miscarriage. However, there's a small risk baby could develop foetal varicella syndrome (FVS). FVS can damage the baby's skin, eyes, legs, arms, brain, bladder or bowel.
- Between weeks 28 and 36 of pregnancy: the virus stays in the baby's body but doesn't cause any symptoms. However, it may become active again in the first few years of the baby's life, causing shingles.
- After 36 weeks of pregnancy: baby may be infected and could be born with chickenpox.

**164. Which of the following can be used to delay preterm contractions of uterus with best neurological outcome for the fetus?**

a) Mgso4

b) Nifidipine

c) Ritodrine

d) Isoxprine

Correct Answer - A

**Ans. A.MgSo4**

Antenatal magnesium sulfate for both tocolysis and fetal neuroprotection in premature rupture of the membranes before 32 weeks' gestation.

**Other tocolytic drugs:**

- Ritodrine, salbutamol and magnesium sulphate are tocolytic drugs used to terminate preterm labour and delivery.
- Other tocolytic drugs are isoxsuprine, indomethacin, calcium channel blockers, glyceryl trinitrate, atosiban and glyceryl trinitrate.

**165. A: Hot flushes are experienced by women during menopause**

**R: Hot flushes are due to withdrawal or fluctuation of estrogen.**

a) Both assertion and reason are true and reason is the correct explanation of assertion

b) Both assertion and reason are true but reason is not the correct explanation of assertion

c) Assertion is true but reason is false

d) Reason is true but assertion is false

Correct Answer - A

**Ans.A.Both assertion and reason are true and reason is the correct explanation of assertion**

- Hot **Flushes**: They are the 'hallmark' of menopause. Hot flushes are described as a recurrent transient period of flushing, sweating and a sensation of heat often accompanied by palpitations, feelings of anxiety and sometimes followed by chills.
- The entire episode lasts no more than 1-3 minutes and recurs 5-10 times/day (can occur up to 30 times a day).
- Short term estrogen therapy results in the resolution of hot flushes.

**166. Best Age to start bone mineral density test in female.**

a) After 50 years

b) After 55 years

c) After 60 years

d) After 65 years

Correct Answer - D

**Ans.d.After 65 years**

**NOF recommends:**

**Bone density test :**

- In woman **age 65 or older.**
- In man age 70 or older.

## 167. DOC for bacterial vaginosis in pregnancy

a) Clindamycin

b) Erythromycin

c) Rovamycin

d) Metronidazole

Correct Answer - D

**Ans. D. Metronidazole**

Medication—Treatment should include both partners.

Oral Metronidazole—500 mg orally twice daily after meals for 7 days. Or 2 g stat.

Advisable to defer treatment during first trimester of pregnancy.

Side effects: nausea, metallic taste, antabuse – like reaction to alcohol.

**168. In atonic PPH which of the following is done?**

**A. Uterine massage**

**B. Ergometrine is administered to all**

**C. B-Lynch is administered to all**

**D. Suction of uterus**

a) a And b are true

b) b and c are true

c) a & d are true

d) b and d are true

Correct Answer - C

**Ans. c. a and d are true**

Uterine massage to ensure the uterus is contracted and there is no bleeding is a component of active management of the third stage of labour for the prevention of PPH.

## 169. IV loading dose of MgSo<sub>4</sub> prophylaxis in pre-eclampsia?

a) 8ml MgSo<sub>4</sub>+10ml of NS

b) 10ml MgSo<sub>4</sub>+10ml of NS

c) 8ml MgSo<sub>4</sub>+12ml of NS

d) 12ml MgSo<sub>4</sub>+8 ml of NS

Correct Answer - C

**Ans. C.8ml MgSo<sub>4</sub>+12ml of NS**

Dose: 4-5 g (diluted in 250 mL NS/D5W) IV in combination with either :

Up to 10 g (10 mL of undiluted 50% solution) divided and administered IM into each buttock or

After initial IV dose, 1-3 g/hr IV.

MgSO<sub>4</sub> is continued 24 hours after delivery to prevent postpartum eclampsia

**170. Non-pulsatile dose of GnRH agonist is used in all the following conditions except-**

a) Endometriosis

b) infertility

c) Precocious puberty

d) Prostate cancer

Correct Answer - B

**Ans.B.Male infertility**

GnRH is used in all those conditions where there is increased estrogen as GnRH decrease estrogen secretion.

**Mnemonic :**

- \* A - F and HIP
- \* A = Adenomyosis
- \* B = Irritable Bowel Syndrome (under Trial)
- \* C = Ca Breast (Tamoxifen + GnRH agonist give good result)
- \* D = DUB
- \* E = Endometriosis
- \* F = Fibromyoma uterus.
- \* H = Hirsutism
- \* I = Infertility
- \* P = Precocious Puberty.

**171.**

**A primigravida 37 POG diagnosed to be having "transverse lie"... Which of the following are correct**

- A. Repeat USG to confirm position**
- B. Do cesarean section at onset of labour**
- C. During CS deliver by breech**
- D. Transverse lie is associated with placenta previa**
- E. Admit at 36 weeks**

a) True true false false true

b) False false True true true

c) True false True false true

d) True true true true false

Correct Answer - D

**Ans. D. True true true true false**

**MANAGEMENT:**

Turn Transverse Baby:

- \* Webster-technique
- \* Pulsatilla
- \* Brisk Walking
- \* Bridge pose
- \* Acupuncture
- \* pregnancy belt once your baby gets to a head-down position
- \* **External cephalic version( beyond 35 weeks)**
- \* If external version fails, patient should be admitted at 37th week because of risk of rupture of the membranes and cord prolapse

because of risk of rupture of the membranes and cord prolapse.

\* **Elective caesarean section** is the preferred method of delivery.

\* If external version fails, vaginal delivery is allowed in a dead or congenitally malformed fetus.

\* **Twin pregnancy normal delivery should be attempted in First baby – Vertex and second baby transverse lie.**

# 1. Cervical smear fixation is done by :

a) Ethyl alcohol

b) Acetone

c) Xylene

d) Formalin

Correct Answer - A

Ethyl alcohol

- Pap smear is the most effective method of screening for cervical cancer.
- Technique of preparing pap smear : A speculum is introduced in the vagina without lubricant and material from cervix is collected using Ayer's spatula. Whole of the squamocolumnar junction has to be scrapped i.e. rotate the spatula through 360° and spread it on a slide (1<sup>st</sup> slide) and material is also collected from posterior wall of vagina (2<sup>nd</sup> slide) which acts as a control.
- The glass slide is not air dried as it gets damaged.
- The slide is fixed using ethyl alcohol.

The main problem with conventional pap smears are that they are of variable thickness and may get obscured by mucus, blood and other debris. This results in cell and nuclear overlap, causing problems with detection and interpretation.

To overcome this problem – Liquid based cytology has been developed.

Liquid based cytology :

**Advantages ?**

- They decrease the number of false negative results.
- They decrease the number of inadequate smear collection.
- Can also be used for HPV typing and testing.

Method : From Gynecology for DC and Practitioners 2/e p 620

Method : From Gynaecology for PG and Practitioners 2/e, p 620 –  
A plastic sampling device is used to collect the cells in the usual manner but instead of smearing it on a glass slide, the device is rinsed in a buffered methanol solution for transfer to the laboratory. It is subsequently tittered' to separate mucus and debris.

## 2. HRT is helpful in all of the following except

a) Vaginal atrophy

b) Flushing

c) Osteoporosis

d) Coronary heart disease

Correct Answer - D

**Ans. is d i.e. Coronary heart disease**

- Friends, *Harrison 16/e. p 30* breaks a popular myth of using HRT for prevention of Coronary. Heart Disease. Until recently, it was believed that the sex specific effect of Gonadal Steroids on CVS and lipid metabolism accounted for the different rates of Coronary heart disease in women as compared to men.
- Estrogen increases HDL and decreases LDL whereas androgens have the opposite effect and this was further supported by the increase in incidence of Coronary heart disease after menopause.
- These findings led to the widespread use of HRT for primary and secondary prevention of Coronary heart disease. (CHD)  
But recent trials have shown an increase in the incidence of CHD in women placed on HRT as compared to those not on HRT.

This fact is supported by *Williams Gynae. 1/e, p 494* which says  
*"In the many reviews and discussions following WHI (Women Health Initiative), most clinicians agree that Hormone Therapy is associated with an increased risk of CHD in older menopausal women and an increased risk of breast cancer, stroke, venous thromboembolism and cholecystitis."*

Advantages of oestrogen in HRT :

- Prevents osteoporosis<sup>o</sup> (Greatest potential benefit of oestrogen

therapy)

- Decreases hot flushes°
  - Vaginal application of oestrogen decreases vaginal atrophy°
- Hazards of Prolonged estrogen use :
- *Risk of Endometrial hyperplasia and Ca endometrium increases°*
  - Risk of breast Cancer increases°
  - Ted Risk of Gall bladder disease°
  - Ted Risk of Thromboembolic events°
- Friends, here I would also like you to know - *Harrison 16/e, p 30* gives a table on the potential benefits and harms**

### 3. Treatment of choice in a postmenopausal lady with atypical endometrial hyperplasia is ;

a) Estrogens

b) Hysterectomy

c) Progestogens

d) Radiotherapy

Correct Answer - B

Ans: B. Hysterectomy

Variable	Type I:	
	Endometrioid	Type II: Serous
Epidemiology	75% of endometrial cancers	25% of endometrial cancers
Etiology	Unopposed estrogen stimulation (e.g. tamoxifen use, exogenous estrogen-only therapy).	Unrelated to estrogen; the p53 mutation is present in 90% of cases.
Precursor lesion	Hyperplasia and atypical hyperplasia.	None
Mean age at diagnosis	55 years	67 years
Prognosis	Favorable	Poor



#### 4. Investigation of choice in postcoital bleeding in a 60 years old lady is :

a) Pap smear

b) Colposcopy and biopsy

c) Pelvic ultrasound

d) Cone excision of cervix

Correct Answer - B

**Ans. is b i.e. Colposcopy and biopsy**

*investigation of choice in post-coital bleeding in a 60 years old lady (which suggests carcinoma cervix) is Colposcopy and Biopsy.*

**The aim of Colposcopy is :** - to confirm the diagnosis

- **to** identify the extent of lesion

- it allows conservative treatment in case of precancerous lesions.

- Pap smear is not the investigation of choice, as it is a screening procedure. If pap smear is negative in this case (In postmenopausal females, where there are less metaplastic changes at squamo columnar junction) we still have to confirm by Colposcopy.
- Cone biopsy is a destructive method and is advised only if diagnosis cannot be confirmed by colposcopy or SCJ is not visualised.

**5. Placental alkaline phosphatase is marker of:**

a) Theca cell tumor

b) Teratoma

c) Choriocarcinoma

d) Dysgerminoma

Correct Answer - D

Ans. is d i.e. Dysgerminoma

*Placental alkaline phosphatase and LDH are tumour markers of dysgerminoma.*

## 6. Ideal contraceptive for newly married couple is

a) Barrier method

b) Combined OCP

c) IUCD

d) Progesterone only pill

Correct Answer - B

Combined oral contraceptive pill [Ref Dutta 7/e p. 5591

- Best contraceptive for newly married couple is combined oral contraceptive pill (COC). -Combined oral contraceptive has lesser failure rate than progestin only pill. - IUCD's should not be used in newly married couple.

Also know

- Best contraceptive for parous young women —) IUCD (considered the best method for spacing child birth).

## 7. Ideal contraceptive for a couple living in different cities meeting only occasionally -

a) >Barrier method

b) >IUCD

c) >OCP

d) >DMPA

Correct Answer - A

Barrier method [Ref Dutta 7/e p. 534]

- *Barrier method is a suitable contraceptive option for those who have infrequent sexual intercourse.*
  - *Since the couple are living in different cities they do not need round the clock contraception as offered by other methods.*

## 8. Ideal contraceptive for lactating mothers is:

a) Barrier method

b) Combined OCP

c) Lactational amenorrhoea

d) Progesterone only pill

Correct Answer - C:D

lactational amenorrhoea [Ref: Atlas of contraception 2/e p87-89; Novak's gynecology 14/e p254; The handbook of contraception by Donna Shoupe S. L Kip's 2006 p69; [www.guideline.gov/content.aspx?id=11230](http://www.guideline.gov/content.aspx?id=11230)]

This is a Controversial Question as the Answer Can be Both C or D

As far as POP is concerned they were designed mostly for Lactating Mothers , However Lactational Amenorrhoea is equally effective in First 6 Months of Lactation.

So Choose according to your own understanding an nuance of the question asked

An almost similar question was asked previously in 'All India' examination. Note that previously 'Most effective' contraceptive was asked. Now the question is different –'Ideal' contraceptive is asked. Practically, there are no ideal contraceptives (neither for lactating women, nor for non-lactating women).

*An Ideal contraceptive is one which is – 100% effective, 100% safe, reversible with no side effects, and minimal effect on lactation.*

The Barrier methods and Combined OCPs can be easily ruled out; as barrier methods have high failure rates if used alone; while combined OCPs have a negative effect on breast milk production.

Lactational amenorrhoea is the most ideal contraceptive for a

Lactational amenorrhoea is the most ideal contraceptive for a lactating women, as it has virtually no side effects, rather it has plethora of benefits for both mother and child.

About effectiveness, it is almost equally effective to Progesterone only pills (POPs) *when used perfectly*. (see the below given table).

Failure rates:

Contraceptive method	Typical use	Perfect use
LAM (6 months only)	2.0	0.5
IUD	0.8	0.6
POP 'mini pill'	8.0	0.5
Combined oral contraceptive	6-80.1	
Barrier method	143.0	

Lactational amenorrhoea (LAM) is a natural, safe and effective contraceptive method which can be used upto 6 months post partum if the following conditions are met. (Note that LAM is not pure simple exclusive breast feeding; following conditions need to be fulfilled)

1. *The mother should not experience vaginal bleeding after the 8 weeks postpartum.*
2. *The baby is less than 6 months old.*
3. *The baby is exclusively breastfed.*
4. *Breast feeding is done at least every 4 hrs. during the day and every 6 hrs during night.*

If the above conditions are fulfilled then LAM can give more than 98% protection from pregnancy. It has the added benefit of promoting exclusive breast feeding which is the ideal nutrition for infants.

#### Lactational Amenorrhoea

##### Advantages

- Very effective if used perfectly
- Has no side effects
- Promotes

##### Disadvantages

- Can be used only for a short period (6 months post partum)

exclusive breast feeding, and therefore enhances maternal and infant health.

- Does not require insertion of any device at the time of sexual intercourse
- Can be initiated immediately postpartum
- Is economical and requires no commodities or supplies
- Reduces mother's lifetime risk of breast cancer.

Physiology of LAM:

*Infant's suckling is the stimulus that initiates the state of lactational amenorrhea for breastfeeding women.*

*The act of suckling elevates prolactin levels, and reduces GnRH from the hypothalamus. This reduces LH release thus inhibiting follicular maturation. This prevents ovulation.*

But, even with continued nursing, ovulation eventually returns after 6 months, so another method of contraception should be used 6 months postpartum, or sooner if the menses resume.

Ovulation has been seen to resume even earlier in some patients, so some books advice 'Rule of 3' i.e.

- another contraceptive method should be use along with LAM beginning from the 3<sup>rd</sup> postpartum month.

- and if the women is partially breastfeeding or not breastfeeding, the contraceptive should begin by the 3<sup>rd</sup> postpartum week.

Progesterone only pills are the most effective contraceptive during lactation amongst the options provided. They have drawbacks like:

- Have to be taken regularly at the same time
- Cause spotting or irregular bleeding, ectopic pregnancy, headache, nausea, acne, hirsutism and weight gain

9. Sentinel biopsy is MOST useful in?

a) Cervix carcinoma

b) Vulval carcinoma

c) Vaginal carcinoma

d) Endometrial Carcinoma

Correct Answer - B

Sentinel node is a lymph node that is first to receive drainage from a malignancy. ***Sentinel lymph node biopsy is used in breast carcinoma, melanoma, vulval carcinoma.***

**Ref:** Novak, 14th edition, page; 1425-1426

**10.** A 19 year old patient came to the out patient department with complaints of primary amenorrhea. She had well developed breast and pubic hair. However there was absence of vagina and uterus. Likely diagnosis is:

a) XYY

b) Mullerian agenesis

c) Gonadal dysgenesis

d) Klinefelter's syndrome

Correct Answer - B

**Müllerian agenesis (Mayer-Rokitansky-Küster-Hauser syndrome)** is the second most common cause of primary amenorrhea. These individuals have normal ovarian development, normal endocrine function, and normal female sexual development. The physical findings are a shortened or absent vagina in addition to absence of the uterus, although small masses resembling a rudimentary uterus may be noted.

These individuals have a 46,XX karyotype.

**Ref:** Rosen M.P., Cedars M.I. (2011). Chapter 13. Female Reproductive Endocrinology and Infertility. In D.G. Gardner, D. Shoback (Eds), Greenspan's Basic & Clinical Endocrinology, 9e.

**11. HPV vaccine is?**

a) Monovalent

b) Trivalent

c) Both bivalent and Quadrivalent

d) Only Quadrivalent

**Correct Answer - C**

Approximately 70% of cervical cancers are caused by the high cancer risk types 16 and 18. Over 90% of genital warts are caused by low cancer risk types 6 and 11.

Two HPV vaccines are

1) Quadrivalent HPV vaccine (HPV4) types 6, 11, 16, and 18 (Gardasil, Merck) is approved for females and males 9 through 26 years of age.

2) Bivalent HPV (HPV 2) types 16 and 18 vaccine (Cervarix, GlaxoSmithKline) is approved for females 10 through 25 years of age.

Routine vaccination of females and males aged 11–12 years is recommended.

**Types of HPV Vaccines**

Bivalent Vaccine (Cervarix)	Quadrivalent Vaccine (Gardasil)	Nanovalent Vaccine (Gardasil 9)
• Prevention against HPV types <b>16 &amp; 18</b>	Prevention against HPV types <b>6, 11, 16, 18</b>	Prevention against HPV types <b>6, 11, 16, 18, 31, 33, 45, 52, 58</b>
Only used for girls	Used for both boys & girls	Used for both <b>boys &amp; girls</b>
Age <b>9-26</b> years	• Age <b>9-26</b> years	<b>3 doses</b> given at 0, 2 & 6 months 0.5 ml given IM

**Ref:** Daley M.F., O'Leary S.T., Nyquist A. (2012). Chapter 10. Immunization. In W.W. Hay, Jr., M.J. Levin, R.R. Deterding, J.J. Ross, J.M. Sondheimer (Eds), CURRENT Diagnosis & Treatment: Pediatrics, 21e.

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**12.** A 52 year old lady presents with constant leakage of urine and dysuria two weeks after a complicated total abdominal hysterectomy. A diagnosis of Vesicovaginal fistula is suspected. The most important test for the diagnosis is:

a) Triple Swab Test

b) Urine culture

c) Cystoscopy

d) IVP

**Correct Answer - A**

Triple swab test is the investigation of choice to establish the diagnosis of a suspected vesico vaginal fistula.

It confirms the presence of vesico vaginal fistula, and also differentiate it from uretero vaginal and urethro vaginal fistula.

**Ref:** William's Gynecology, 1st Edition, Page 574; Textbook of Gynecology By DC Dutta, 4th Edition, Page 386, 7.

**13.** A 35 yr old woman presents with primary infertility. On examination a mass is palpable in the pelvis. USG shows a cystic lesion in the ovary with ground glass appearance without internal vascular flow. Her CA-125 level is 90 U/ml. What is the most likely diagnosis?

a) Ovarian Ca

b) Endometrioma

c) Tuberculosis

d) Borderline ovarian tumor

### Correct Answer - B

This patient is most likely suffering from ovarian endometrioma which occur secondary to endometriosis.

Ultrasonography is the most commonly used diagnostic method for detecting ovarian endometrioma and laparoscopy is the gold standard for definitive diagnosis.

Endometriosis refers to aberrant growth of endometrium outside the uterus particularly in the dependent parts of the pelvis and ovaries. Patients mainly presents with dysmenorrhea, chronic pelvic pain, dyspareunia, bowel bladder symptoms or infertility.

#### Signs which raise the suspicion of endometriosis are:

- Tender uterosacral ligaments or cul-de-sac nodularity
- Fixed, retroflexed uterus with laterally dilated cervix
- Tender pelvic mass especially an enlarged ovary
- Colored lesion in umbilicus, surgical scars, vulva, vagina or cervix

**14.** Which of the following treatments for menorrhagia is not supported by evidence?

a) Combined oral contraceptive pills

b) Progesterone

c) Tranexamic acid

d) Ethamsylate

**Correct Answer - D**

Ethamsylate is thought to act by reducing capillary fragility though the precise mechanism is uncertain.

Studies with objective MBL (Menstrual Blood Loss) measurements using the currently recommended doses show that it is ineffective.

**Ref:** Dewhurst's Textbook of Obstetrics and Gynecology, 7th Edition, Page 402; William's Gynaecology, 1st Edition, Page 187; Obstetrics and Gynecology for Postgraduates By Arulkumaran, Sarala, Pratap, Volume 2, 3rd Edition, Page 108

**15.** Primary Amenorrhea with absent uterus, normal breasts and scanty pubic hair is seen in:

a) Mayer Rokitanski Kuster Hauser syndrome

b) Turner's syndrome

c) Androgen Insensitivity Syndrome

d) Noonan syndrome

### Correct Answer - C

Primary Amenorrhea with absent uterus, normal breasts and scant pubic hair is consistent with a diagnosis of Androgen Insensitivity Syndrome.

**Androgen Insensitivity Syndrome** is caused by inability of end organs to respond to androgens.

In this either the androgen receptor is deficient or the receptor is defective. Karyotype is 46,XY.

These individuals are phenotypically females with breast development, normal female external genitalia, blind ending vagina, absent uterus, tubes, cervix and upper 2/3 rd vagina, scanty pubic hair, with gonads in the labia or inguinal canal.

**Ref:** William's Gynecology, 1st Edition, Page 368 ; Speroff, 7th Edition, Pages 420, 421, 422 ; Textbook of Gynecology By DC Dutta, 4th Edition, Pages 405-6 ; Pediatric Endocrinology : A Practical Clinical Guide By Sally Radovick, Margaret H. MacGillivray, Page 389

**16.** A lady presented with secondary amenorrhea 6 months after having an abortion. Her FSH levels were measured as 6 mIU/ml what is the most probable diagnosis:

a) Pituitary failure

b) Ovarian failure

c) Fresh pregnancy

d) Uterine synechiae

Correct Answer - D

Since the lady in the question is having secondary amenorrhea following an abortion, uterine synechiae is the most likely cause. Low normal FSH level is consistent with uterine abnormality. (Normal serum FSH value in adult is woman is 5-20 mIU).

**Ref:** Novak's, 14th Edition, Chapter 27; Speroff, 7th Edition, Chapter 11; Shaw's, 14th Edition, Pages 263, 264; The Subfertility Handbook : A Clinician's Guide By Gab Kovacs, 2nd Edition, Page 117

**17.** What is the rate of release of levonorgestrel into the uterus from Mirena, a progestin releasing intrauterine device?

a) 20 microgm/d

b) 30 microgm/d

c) 50 microgm/d

d) 70 microgm/d

Correct Answer - A

Mirena is a progestin releasing device, it releases levonorgestrel into the uterus at a rate of 20 microgm/d. It has a T-shaped radiopaque frame, with its stem wrapped with a cylinder reservoir, composed of a polydimethylsiloxane-levonorgestrel mixture.

For emergency contraception levonorgestrel **is used, 0.75 mg** initially, followed by another 0.75 mg 12 hours later.

Cu T 380A is another progestin releasing device. It has a polyethylene and barium sulfate, T-shaped frame wound with copper.

**Ref:** Cunningham F.G., Leveno K.J., Bloom S.L., Hauth J.C., Rouse D.J., Spong C.Y. (2010). Chapter 32. Contraception.

**18.** Which of the following methods of contraception should be avoided in women with epilepsy?

a) Oral contraceptive pills

b) IUCD

c) Condoms

d) Diaphragm

**Correct Answer - A**

All the antiepileptics (except for sodium valproate and clonazepam) have the property to induce the enzyme complex which metabolizes the oral contraceptives. Hence it is better avoided in patients with a history of epilepsy on medications.

The other three methods of contraception mentioned in the question have no such contraindication.

**Ref:** Dutta textbook of Obstetrics, 6th Edition, Page 545; Textbook of Gynaecology By Rao, Page 183-184

**19.** What is the ideal treatment for a 55 yr female with Simple Hyperplasia of endometrium with Atypia?

a) Simple hysterectomy

b) Medroxy progesterone Acetate (MPA)

c) Levonorgesterol (LNG)

d) IUCD

**Correct Answer - A**

Among all the given options for the patient in the clinical scenario, the best treatment option would be simple hysterectomy. There are chances of about 60-70% for simple hyperplasia of endometrium with Atypia to progress into endometrial cancer. While abdominal hysterectomy with or without oophrectomy is preferred in elderly, medical management is used in younger patients who would not prefer hysterectomy.

**Ref:** Shaws textbook of Gynaecology 13 edition, page 395

**20.** Conversion of a complete hydatidiform mole into choriocarcinoma is indicated by all, EXCEPT:

a) Plateau HCG levels

b) Enlarged Uterine size

c) Persistence of theca Lutein cysts

d) Suburethral Nodule

**Correct Answer - D**

Suburethral Nodule is an unusual indicator of postmolar choriocarcinoma. All others are very well seen in the conversion of a complete hydatidiform mole into choriocarcinoma.

**Suburethral nodule** may be a manifestation of vaginal metastasis from choriocarcinoma. Metastatic choriocarcinoma is however seen in only about 4% of patients after evacuation of a complete mole and vaginal metastasis that may present with suburethral nodule occur in only 30% of patients with such metastatic disease. Hence it is an unusual indicator.

**Ref:** Novok's, 14th Edition, Page 1588, 1591, 1592 ; William's Gynaecology, 1st Edition, Page 764 ; COGDT, 10th Edition, Page 1890 ; Gynecological Cancer Management : Identification, Diagnosis and Treatment By Daniel Clarke-Pearson, John Soper, 2011.

**21. Regarding prolactinoma in pregnancy, all are true, EXCEPT:**

a) Most common pituitary tumor but rarely symptomatic

b) Increase in prolactin levels worse prognosis

c) Macroadenoma > 1 cm is associated with bad prognosis

d) Regular visual checkup

Correct Answer - C

Pituitary adenoma more than 2cm is associated with bad prognosis. Other poor prognostic factors includes high preoperative prolactin levels, increased age and longer duration of amenorrhea.

Prolactinomas are prolactin secreting tumours of the pituitary It is a benign tumour It is the commonest pituitary tumor seen in pregnancy. During pregnancy the stimulatory effect of hormonal milieu of pregnancy result in significant enlargement of prolactinoma during pregnancy. Patients with prolactinoma usually presents with amenorrhea, galactorrhea, headache, visual field defect (bitemporal hemianopia) and diabetes insipidus

## 22. Which of the following statement regarding Clomiphene citrate is true?

a) Enclomiphene is anti-estrogenic

b) Increases pregnancy rate 3 times as compared to placebo

c) Incidence of twin pregnancy is 5-6%

d) It has been shown to increase fertility in oligospermic males in randomized controlled trials

Correct Answer - A

- Clomiphene citrate is a racemic mixture of enclomiphene & zuclomiphene.
- **Clomiphene citrate** is a triphenylethylene; its two isomers, zuclomiphene (*cis*-clomiphene) and enclomiphene (*trans*-clomiphene), are a weak estrogen agonist and a potent antagonist, respectively.
- The incidence of multiple pregnancies is approximately 10%.
- Although clomiphene is effective in inducing ovulation in perhaps 75% of women, successful pregnancy ensues in only 40-50% of those who ovulate.
- Clomiphene also may be used to evaluate the male reproductive system because testosterone feedback on the hypothalamus and pituitary is mediated to a large degree by estrogens formed from aromatization of the androgen.
- Enclomiphene is a more potent anti-oestrogenic isomer and the one primarily responsible for the ovulation-inducing actions of clomiphene citrate.
- Intrauterine insemination and clomiphene citrate increase pregnancy rate 3 times as compared to placebo.
- Incidence of twin pregnancy following clomiphene citrate ovulation

induction is 10%, while that of triplets is 1%.

- A randomized control study showed that use of clomiphene has improved sperm motility and percent of normal forms but has not established an increased fertility.
- Indications of clomiphene: Ovulation induction To aid invitro fertilization when given with gonadotrophins In oligozoospermia: it increases gonadotrophin secretion and promotes spermatogenesis and testosterone secretion Adverse effects of clomiphene: Polycystic ovaries Multiple pregnancy Hot flushes Gastric upset Increased risk of ovarian tumor

**23. A 40 year old woman presents with abnormal cervical cytology on PAP smear suggestive of CIN III (HSIL). The next best step in management is:**

a) Hysterectomy

b) Colposcopy and LEEP

c) Colposcopy and Cryotherapy

d) Conization

Correct Answer - B

According to FIGO classification, cervical intraepithelial neoplasia 3 (CIN 3) belong to stage 0.

Loop electrocautery excision procedure done under colposcopic visualization is the mode of treatment for CIN II and CIN III lesions.

**Ref:** Novak's, 14th Edition, Page 582, 583; William's Gynaecology, 1st Edition, Page 635; COGDT, 10th Edition, Pages 841, 837; Dewhurst's, 6th Edition, Pages 575, 574.

**24. A 35 year old female presented with post coital bleeding. Next step of management is:**

a) Pap smear and colposcopy

b) Visual inspection with acetowhite

c) Visual inspection with lugol's iodine

d) Colposcopy directed biopsy

Correct Answer - A

**Ans: A. Pap smear and colposcopy**

**Postcoital bleeding (PCB)** has many causes, including vaginitis, cervicitis, cervical dysplasia and malignancy, uterine lesions, and pregnancy.

Some women with postcoital bleeding may have pathologic lesions identified at colposcopic evaluation that had been missed by Pap smear screening.

Thus, colposcopic examination is considered for women with unexplained postcoital bleeding.

**Ref:** Hoffman B.L., Schorge J.O., Schaffer J.I., Halvorson L.M., Bradshaw K.D., Cunningham F.G., Calver L.E. (2012). Chapter 8. Abnormal Uterine Bleeding. In B.L. Hoffman, J.O. Schorge, J.I. Schaffer, L.M. Halvorson, K.D. Bradshaw, F.G. Cunningham, L.E. Calver (Eds), Williams Gynecology, 2e.

**25.** A 49 year old female was prescribed hormone replacement therapy (HRT). HRT is useful in all of the following, EXCEPT:

a) Flushing

b) Osteoporosis

c) Vaginal atrophy

d) Coronary heart disease

Correct Answer - D

**Ans: D. Coronary heart disease**

**Benefits and Risks of Postmenopausal Hormone Therapy (HT):**

**Definite Benefits**

- Symptoms of menopause (e.g, Flushing, vaginal atrophy)
- Osteoporosis

**Definite Risks**

- Endometrial cancer
- Venous thromboembolism
- Breast cancer
- Gallbladder disease

**Probable or Uncertain Risks and Benefits**

- Coronary heart disease
- Stroke
- Ovarian cancer
- Colorectal cancer
- Diabetes mellitus
- Cognitive dysfunction

**Ref:** Manson J.E., Bassuk S.S. (2012). Chapter 348. The Menopause Transition and Postmenopausal Hormone Therapy. In Longo D.L., Fauci A.S., Kasper D.L., Hauser S.L., Jameson J, Loscalzo J (Eds), Harrison's Principles of Internal Medicine, 18e.

## 26. Treatment of carcinoma Cervix stage IIIB include:

a) Wertheim's hysterectomy

b) Schuata's hysterectomy

c) Chemotherapy

d) Concurrent chemoradiation

Correct Answer - D

**Ans. d. Concurrent chemoradiation**

**Treatment Options by Stage**

**Carcinoma in Situ (Stage 0)**

- Conization, such as cold-knife conization, loop electrosurgical excision procedure(LEEP), or laser surgery.
- Hysterectomy for women who cannot or no longer want to have children. This is done only if the tumor cannot be completely removed by conization.
- Internal radiation therapy for women who cannot have surgery.

**Stage IA Cervical Cancer**

**Treatment for stage IA1 may include the following:**

- Conization.
- Total hysterectomy with or without bilateral salpingo-oophorectomy.

**Treatment for stage IA2 may include the following:**

- Modified radical hysterectomy and removal of lymph nodes.
- Radical trachelectomy.
- Internal radiation therapy for women who cannot have surgery.

**Stages IB and IIA Cervical Cancer**

- Radiation therapy with chemotherapy given at the same time.
- Radical hysterectomy and removal of pelvic lymph nodes with or without radiation therapy to the pelvis, plus chemotherapy.

- Radical trachelectomy.
- Chemotherapy followed by surgery.
- Radiation therapy alone.

### **Stages IIB, III, and IVA Cervical Cancer**

- Radiation therapy with chemotherapy given at the same time.
- Surgery to remove pelvic lymph nodes followed by radiation therapy with or without chemotherapy.
- Internal radiation therapy.
- A clinical trial of chemotherapy to shrink the tumor followed by surgery.
- A clinical trial of chemotherapy and radiation therapy given at the same time, followed by chemotherapy.

### **Stage IVB Cervical Cancer**

- Radiation therapy as palliative therapy to relieve symptoms caused by the cancer and improve quality of life.
- Chemotherapy and targeted therapy.
- Chemotherapy as palliative therapy to relieve symptoms caused by the cancer and improve quality of life.
- Clinical trials of new anticancer drugs or drug combinations.

### **Treatment Options for Recurrent Cervical Cancer**

- Immunotherapy.
- Radiation therapy and chemotherapy.
- Chemotherapy and targeted therapy.
- Chemotherapy as palliative therapy to relieve symptoms caused by the cancer and improve quality of life.
- Pelvic exenteration.
- Clinical trials of new anticancer drugs or drug combinations.

### **Cervical Cancer During Pregnancy**

#### **Carcinoma in Situ (Stage 0) During Pregnancy**

Usually, no treatment is needed for carcinoma in situ (stage 0) during pregnancy. A colposcopy may be done to check for invasive cancer.

#### **Stage I Cervical Cancer During Pregnancy**

Pregnant women with slow-growing stage I cervical cancer may be able to delay treatment until the second trimester of pregnancy or after delivery. Pregnant women with fast-growing stage I cervical cancer may need immediate treatment. Treatment may include:

- Conization.
  - Radical trachelectomy.  
Women should be tested to find out if the cancer has spread to the lymph nodes. If cancer has spread to the lymph nodes, immediate treatment may be needed.
- Stage II, III, and IV Cervical Cancer During Pregnancy**
- Chemotherapy to shrink the tumor in the second or third trimester of pregnancy. Surgery or radiation therapy may be done after delivery.
  - Radiation therapy plus chemotherapy. Talk with your doctor about the effects of radiation on the fetus. It may be necessary to end the pregnancy before treatment begins.

**27. In a female, intraocular metastasis most commonly occurs from which of the following gynaecological primary?**

a) Breast

b) Ovary

c) Cervix

d) Endometrium

Correct Answer - A

Answer- A (Breast)

- Breast cancer is the most common tumor to metastasize to the eye followed by lung cancer.
- Intraocular metastases are the most common malignancy of eye, and the primary cause is breast cancer.

**28. All of the following are true regarding Duncan placental separation except:**

a) Most common method of placental separation

b) Maternal side of the placenta presents at the vulva

c) Separation starts from the periphery

d) Blood collects between the placenta and fetal membranes and escapes through vagina

Correct Answer - A

Answer- A (Most common method of placental separation)

- Less common than Schultze method
- Maternal side of the placenta presents at the vulva
- Separation starts from the periphery
- Blood escapes through vagina

## 29. Hormone replacement therapy is not

a) Urogenital atrophy

b) Vasomotor symptoms

c) Prevention of osteoporosis

d) Prevention of CAD

Correct Answer - D

Answer- D (Prevention CAD)

- Hormone replacement therapy increases the risk of MI (coronary artery disease). The increased risk is attributed to progestin component.
    - o HRT restore  $Ca^{++}$  balance, further bone loss is prevented and the excess fracture risk is nullified.
    - o There is a higher incidence of breast cancer.
    - o Risk for endometrial carcinoma is not increased as protective effect of progestin nullify the carcinogenic effect of estrogen.
    - o There is increased risk for gall stone and migraine.
    - o There is a small protective effective of HRT on colorectal cancer.
- Note :?
- o Usually in HRT combination of estrogen and progestin is given (combined HRT), except in hysterectomized women where estrogen alone is given.
  - o With estrogen alone there is increased risk of endometrial cancer and decrease risk of coronary artery disease (as estrogen increases HDL and decreases LDL and triglyceride level).
  - o So for HRT with estrogen alone the answer of this question will change. In that case it will be option 'a' i.e., increased risk of coronary artery disease.

**30. A 20-year-old young female presented with a relatively painless ulcer of 3 cm on the labia majora with raised margins. Which of the following organisms would have most likely caused this ulcer?**

a) Herpes simplex

b) Treponema palladium

c) Chlamydia trachomatis

d) Candidal cervicitis

Correct Answer - B

Answer- B (Treponema palladium)

- Painless indurated, non bleeding usually single punched out ulcers
- Lymph nodes are rubbery
- Caused by Treponema pallidum
- Diagnosed by dark field microscopy, FTA-ABS (most sensitive test, earliest test to become positive VDRL or RPR titer (determine response to treatment as they become negative) a TPI (most specific test) a TPH (2nd most sensitive test)
- Penicillin G is drug of choice for all stages

**31. What are the cut-off values in 2 hours oral glucose tolerance test for fasting and at 1 hour and 2 hours after meals respectively?**

a) 92, 182, 155

b) 92, 180, 153

c) 95, 180, 155

d) 92, 180, 155

Correct Answer - B

Ans: B. 92, 180, 153

(Ref Williams 24/e p1137)

- Cut-off values in 2 hours oral glucose tolerance test for fasting and at 1 hour & 2 hours after meals respectively.

**Diagnosis of Gestational Diabetes by Oral Glucose Tolerance Testing**

<b>Time</b>	<b>75-gm Glucose</b>	
Fasting	92 mg/dL	5.1 mmol/L
1-hour	180 mg/dL	10.0 mmol/L
2-hours	153 mg/dL	8.5 mmol/L

**32. A mother comes with history of antenatal fetal death due to neural tube defect in first child. What is the amount of folic acid you will prescribe during pre-conceptual counseling?**

a) 4 micrograms/day

b) 40 micrograms/day

c) 400 micrograms/day

d) 4000 micrograms/day

Correct Answer - D

Ans: D. 4000 micrograms/day

(Ref Williams 24/e p1104; Nelson 20/e p2805, 20/e p2805, 19/e p2001)

- If a pregnancy is planned in high-risk women (previously affected child with neural tube defects), supplementation should be started with 4 mg (= 4000 microgram) of folic acid daily, beginning 1 month before the time of the planned conception.

**Recommendations:**

- By U.S. Public Health Service.
- Folic acid 0.4 mg daily - For all women of childbearing age & ones capable of becoming pregnant.
- Folic acid 4 mg (= 4000 microgram) daily - For planned pregnancy in high-risk women (previously affected child) - Beginning 1 month before time of planned conception.

Areas addressed by the preconception care :

- Nutritional conditions

- Vaccinepreventable diseases
- Genetic conditions
- Environmental health
- Infertility/ subfertility
- Female genital mutilation
- Too early, unwanted and rapid successive pregnancies
- Sexually transmitted infections
- Human immunodeficiency virus (HIV)
- Interpersonal violence
- Mental health
- Psychoactive substance use
- Tobacco use

**33. A 32-year-old P2L2 lady comes five days after unprotected sexual intercourse. What will be your advice for contraception in this lady?**

a) Copper IUCD

b) Levonorgestrel 0.75 mg

c) Two tablets of high dose OCP, repeated after 24 hours

d) Laparoscopic tubectomy

Correct Answer - A

Ans: A. Copper IUCD

(Ref Dutta 8/e p615, 7/e p551)

- Best contraceptive for 32-year old P2L2 lady coming after 5 days after unprotected sexual intercourse - Copper-containing IUCD.
- Copper IUCD:**
- Insertion within maximum period of 5-7 days after accidental unprotected exposure.
  - Prevents implantation.
  - Unsuitable for women with multiple sex partners & rape victims.

**34. A G6+0+0 lady with h/o recurrent missed abortions at 14-16 weeks comes to you with a missed abortion at 12 weeks. Which of the following tests is not warranted?**

a) Lupus anticoagulant

b) VDRL for husband and wife

c) Anticardiolipin antibody

d) Fetal karyotype

Correct Answer - B

Ans: B. VDRL for husband and wife

(Ref Williams 24/e p358-359; Dutta 8/e p343, 7/e p167)

**VDRL:**

- Simple test.
- Performed in initial work-up for all multiple abortion cases.
- All abortions are by 16th week while in syphilis, usually there is a improvement in the duration of pregnancy (Kassowitz Law).

**Kassowitz law:**

- For untreated syphilis woman with series of pregnancies - Have lesser likelihood of infection of fetus from later pregnancies.

### 35. What is the level of proteinuria to diagnose severe preeclampsia?

a) 20 mg

b) 200 mg

c) 300 mg

d) 3000 mg

Correct Answer - C

Ans: C. 300 mg

(Ref: Hypertension in pregnancy (ACOG taskforce on hypertension in pregnancy)-Obstetrics and gynaecology, Vol-122, No.5, November 2013; William's 24/e p181; Danforth 10/e p264)

#### **Diagnostic criteria for pre-eclampsia:**

- **Proteinuria** - 2300 mg per 24 hour urine collection.
- Removed from essential criterion for pre-eclampsia diagnosis by American College of Obstetricians and Gynecologists in 2013.
- In absence of diagnostic requirement of 5 gm as massive proteinuria for severe eclampsia - General definition of proteinuria (>300 mg) sufficient.

**36. A 16-year old girl was brought with primary amenorrhea. Her mother mentioned that she started developing breast at the age of 12. She was prescribed OCPs 2 years back by a doctor with no effect. She was having normal stature and was a football player. On examination, breasts were well developed (Tanner's stage 5) and pubic hair was minimal (Tanner's stage 1). What is the most probable diagnosis?**

a) Premature ovarian failure

b) Turner's syndrome

c) Miillerian agenesis

d) Androgen insensitivity

Correct Answer - D

Ans: D. Androgen insensitivity

(Ref: Shawl 16/e p141, 15/e p111-112; Novaks 14/1037-1038; Dutta Gvnae 6/e p424)

- Most likely diagnosis here is **androgen insensitivity syndrome**.
- **Androgen Insensitivity Syndrome:**
- Also referred as “**Testicular feminization**”.
- An X-linked recessive condition.
- Results in failure of normal masculinization of external genitalia in

chromosomally male individuals.

- Testes produce normal amounts of mullerian-inhibiting factor (MIF), also known as mullerian-inhibiting substance (MIS) or anti-mullerian hormone/factor (AMH/AMF),

**Features:**

- Absence of fallopian tubes, a uterus, or proximal (upper) vagina.
- Identified in newborn period - By presence of inguinal masses & later identified as testes during surgery.
- Sometimes diagnosed in teenage years during primary amenorrhea evaluation.
- Absence of pubic & axillary hair in adolescent patients.
- Scanty body hair & lack of acne.
- Yet normal breast - Due to testosterone to estradiol conversion.

### 37. Drug not given in PCOD in a 30-year-old lady with infertility?

a) Clomiphene

b) Tamoxifen

c) OCPs

d) Metformin

Correct Answer - B

Ans: B. Tamoxifen

(Ref: Jeffcott 6/e p205; Shaws 16/e p431-434, 15/e p371, 14/331-332, 13/353-354; Novak 's 15/e pl 076. Duna Gvnae 6/e p470)

- Drug not given in 30-year-old PCOD lady with infertility - Tamoxifen.
- **Treatment of PCOD:**
- Dexamethasone 0.5 mg at bedtime - Reduces androgen production.
- In Clomiphene failed group - Ovulation induced with FSH or GnRH analogues.
- DOC - Metformin - Treats root cause of PCOS, rectifies endocrine & metabolic functions and improves fertility.
- Surgery (laparoscopic multiple puncture of cyst) - Reserved for failed medical therapy, hyperstimulation cases & GnRH analogue usage.

**38. A lady with abdominal mass was investigated. On surgery, she was found to have bilateral ovarian masses with smooth surface. On microscopy they revealed mucin-secreting cells with signet ring shapes. Most probable diagnosis is:**

a) Krukenberg tumor

b) Dysgerminoma

c) Mucinous adenocarcinoma of the ovaries

d) Dermoid cyst

Correct Answer - A

Ans: A. Krukenberg tumor

(Ref Robbins 9/e p1034: 8/e p1050)

**Krukenberg tumor:**

- Classic metastatic gastrointestinal carcinoma involving ovaries.

**Features:**

- Characterized by bilateral metastases composed of mucin-producing, signet-ring cancer cells, most often of gastric origin.

**39. A lady underwent vaginal hysterectomy for Carcinoma cervix. Following the surgery after her urethral catheter was removed, she complained of urinary incontinence. On examination she had normal voiding as well as continuous incontinence. Methylene blue dye was instilled in her bladder through her urethra and she was given oral Phenazopyridine dye. After some time her pads were checked and it showed yellow staining at the top most pad, while the middle or bottom pads were unstained. She is likely to have:**

a) Vesicovaginal fistula

b) Ureterovaginal fistula

c) Urethrovaginal fistula

d) Vesicouterine fistula

Correct Answer - B

Ans: B. Ureterovaginal fistula

(Ref Shaws 16/e p223-224, 15/e p184; William Gynue 1st/e p573)

- Pad showing yellow staining at top portion, but not middle or bottom portions - Likely to have Ureterovaginal fistula.

### **Interpretations of Methylene Blue 3 Swab Test:**

<b>Observation</b>	<b>Interpretation</b>
Upper most swabs soaked with urine but unstained with dye. Clear ureter (unstained). Via fistula à reaches vagina. Uppermost cotton swab will be wet with urine. No discoloration seen - As dye is in bladder & not in ureter.	Ureterovaginal fistula
Upper and lower swab remain dry but the middle swab soaked with dye	Vesicovaginal fistula
The upper two swab remain dry but lower one soaked with dye	Urethrovaginal fistula

**40.**

**In Galactorrhoea—amenorrhea syndromes, which is the investigation you should advise (apart from serum prolactin)?**

a) TSH

b) LH

c) hCG

d) Urinary ketosteroids

Correct Answer - A

Ans: A. TSH

(Ref Harrison 19/e p2 p2267)

**Galactorrhea - amenorrhea syndromes:**

- Serum prolactin & TSH advised.
- **Laboratory diagnosis:**
- Measure basal, fasting morning PRL levels - To assess hypersecretion.
- Normal PRL levels <20 ,ug/L.
- Markedly elevated PRL levels (>1000 ,ug/L) –
- Falsely lowered.
- Due to assay artifacts & aggregated circulating PRL forms.
- Sample dilution required for accurate measurement.
- Usually biologically inactive (macroprolactinemia).
- Measuring TSH and T4 levels - To exclude hypothyroidism.

## 41. Dose of dexamethasone given to mother in anticipated preterm delivery:

a) 12 mg 12 hourly 2 doses

b) 12 mg 24 hourly 4 doses

c) 6 mg 24 hourly 2 doses

d) 6 mg 12 hourly 4 doses

Correct Answer - D

Ans: D. 6 mg 12 hourly 4 doses

(Ref Dutta 8/e p367, 7/e p316: Nelson 20/e p 852)

- Dose of dexamethasone given to anticipated preterm delivery mother - 6 mg 12 hourly 4 doses.  
**Antenatal corticosteroids:**
- Single course recommended for 24-34 weeks gestation with preterm delivery risk.  
**Drugs & dosage:**
- Dexamethasone (6 mg, 12 hourly, 4 doses).
- Betamethasone (12 mg, 2 doses, 24 hours apart).

## 42. Dose of Carbetocin used for PPH is:

a) 50 microgram IV

b) 100 microgram IM

c) 150 microgram IV

d) 200 microgram IV

Correct Answer - B

Ans: B. 100 microgram IM

(Ref Goodman Gillman 12/1851; Dutta 8/e p477, 7/e p412; Williams 24/e p547, 595)

### **Carbetocin (long acting Oxytocin):**

- 100 microgram IM - Very useful preventing postpartum hemorrhage.

### **Carbetocin (long acting Oxytocin):**

- Recently developed with longer half-life.
- Used to control postpartum hemorrhage & bleeding after giving birth (particularly post-cesarean section).

### **Uterotonics:**

- Most important factor decreasing postpartum blood loss.

### **Durgs included:**

- Oxytocin (Pitocin), carbetocin (Duratocin), misoprostol (Cytotec), carboprost (Hemabate) and the ergots, namely ergometrine (Ergotrate) & methylergometrine (Methergine).

**43. A young lady with 6 weeks amenorrhea had nausea and vomiting with severe abdominal pain. Her BP was 100/80 mm Hg. Examination revealed a 5 x 5 cm adnexal mass. What is the plan of management?**

a) Plan for immediate laparoscopic surgery

b) beta-hCG

c) Methotrexate

d) Give IV fluids, keep NPO and observe for 4-5 days

Correct Answer - A

**Ans: A. Plan for immediate laparoscopic surgery**

(Ref: Dutta 8/e. p215, 7/e p180-182; 24/e p3855)

- Here adnexal mass size is 5 x 5 cm - Hence expectant management cannot be done.
- Patient is hemodynamically stable - Hence laparoscopic surgery is management of choice.
- **Ectopic Pregnancy – Treatment:**
  - Laparoscopy:**
    - Preferred surgical treatment for ectopic pregnancy, unless hemodynamically unstable.
  - Salpingostomy:**
    - Procedure of choice hemodynamically stable patient.
    - Recommended surgical procedure for ampullary ectopic pregnancy.
    - Retains fertility.
  - **Salpingotomy:** Not done nowadays

- **Segmental resection & anastomosis:** Done in isthmic pregnancy
- **Fimbrial expression:** Done in distal ampullary pregnancy.

#### 44. According to the 2010 WHO criteria what are the characteristics of normal semen analysis?

a) Volume 2.0 mL, count 20 million, morphology 4% progressive motility 32%

b) Volume 1.5 mL, count 15 million, morphology 4% progressive motility 32%

c) Volume 2.0 mL, count 15 million, morphology 40% progressive motility 32%

d) Volume 1.5 mL. count 20 million, morphology 4% progressive motility 32%

Correct Answer - B

Ans: B. Volume 1.5 mL, count 15 million, morphology 4% progressive motility 32%

(Ref Dutta 6/e p222)

- According to 2010 WHO criteria:
- Characteristics of normal semen analysis:

Semen Characteristics	WHO 1999	WHO 2010
Volume (ml)	Greater or equal to 2 ml	Greater or equal to 1.5 ml
Sperm count	Greater or equal to 20 million/ml	Greater or equal to 15 million/ml
Total sperm count	Greater or equal to 40 million per ejaculate	Greater or equal to 39 million per ejaculate
Total motility	Greater or equal to 50%	Greater or equal to 40%
<b>Progressive</b>		

<b>motility</b>	<b>Greater or equal to 25%</b>	<b>Greater or equal to 32%</b>
Vitality	Greater or equal to 75%	Greater or equal to 58%
<b>Morphology (Normal form)</b>	<b>14%</b>	<b>Greater or equal to 4%</b>
Leukocyte count (10 <sup>4</sup> /m1)	<1	<1

## 45. Earliest diagnosis of pregnancy can be established safely by:

a) USG for fetal cardiac activity

b) Fetal cardiac Doppler study

c) hCG levels

d) MRI pelvis

Correct Answer - A

Ans: A. USG for fetal cardiac activity

(Ref Williams 24/e p196; Ultrasound Obstet Gynecol 2011; 37:625-628; Dutta 8/e p77-78, 7/e p68)

### **Earliest diagnosis of pregnancy:**

- Most accurate & safest method diagnose viable pregnancy at 6 weeks = USG for fetal cardiac activity.

### **Transvaginal sonography:**

#### **By 5 weeks:**

- Reliably visualizes intrauterine gestational sac.
- Embryo visible transvaginally once mean sac diameter is 20 mm.
- Otherwise is anembryonic gestation.

#### **By 6 weeks:**

- Embryo with cardiac activity.
- Cardiac motion visible when embryo length is 5 mm.
- If embryo <7 mm is unidentified with cardiac activity - Subsequent examination recommended in 1 week (American Institute of Ultrasound in Medicine, 2013a).

### **Doppler:**

- Most sensitive but unsafe in early pregnancy.
- Doppler examination of fetal vessels in early pregnancy should not be performed without a clinical indication.



**46. A 10-year-old girl presents with a mass in lower abdomen involving umbilical and the hypogastrium. On examination it is cystic and mobile and the examiner is unable to insinuate fingers between the mass and the pelvic bone. What is the likely diagnosis?**

a) Duplication of small intestine

b) Omental cyst

c) Ovarian cyst

d) Mesenteric cyst

Correct Answer - C

**Ans: C. Ovarian cyst**

(Ref Shaw 16/e p83, 448, 15/e p79, 385)

\* According to examination, swelling is typically arising from pelvis & hand cannot be insinuated between mass & pelvic bone.

\* Best option is **only ovarian cyst arises from pelvis.**

\* **Swellings arising from pelvis - Identified by abdominal palpation.**

- Sensitive ulnar border of left hand - Used from above downwards to palpate swellings arising from pelvis.

- Upper & lateral margins felt.

- Lower border unreached, i.e. the hand cannot be insinuated between mass & pelvis.

**47. All of the following puy NiUiugiLai changes are seen in pregnancy except:**

a) Increased stroke volume

b) Increased cardiac output

c) Increased intravascular volume

d) Increased peripheral resistance

Correct Answer - D

**Ans. d. Increased peripheral resistance**

(REF-Dutta6/e pg 53,51)

During the physiological course of pregnancy, maternal peripheral vascular resistance decreases.

"Pregnancy is a state of hypervolemia. There is active retention of sodium (900 mmol), potassium (350 mmol) and water."- Dutta 6/e p51

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For any queries inbox @murtazakuchay

## 48. Which type of abnormality in sexual development has best prognosis?

a) Congenital adrenal hyperplasia

b) Mixed gonadal dysgenesis

c) Androgen insensitivity syndrome

d) True hermaphroditism

Correct Answer - A

### **Answer- A. Congenital adrenal hyperplasia**

'Congenital adrenal hyperplasia can be managed by supplying enough glucocorticoids to suppress excess androgen production. The deformity in genitalia (enlarged clitoris, fusion of labia minora) can be corrected surgically. Newborn screening methods to detect CAH and efforts to treat CAH in utero have improved the prognosis. Women with CAH can get pregnant and have healthy Infants.

**49. Most common site of primary for intraocular metastasis is from-**

a) Breast

b) Ovary

c) Cervix

d) Endometrium

Correct Answer - A

**Answer- A. Breast**

Most common site of primary for intraocular metastasis is from breast.

'Breast cancer is the most common tumor to metastasize to the eye followed by lung cancer.'

## 50. Most accurate and safe method to diagnose viable pregnancy at 6weeks-

a) Doppler assessment of fetal cardiac activity

b) USG for fetal cardiac activity

c) Urinary Beta-hCG determination

d) Per vaginal examination of uterine size corresponding to 6 weeks gestation

Correct Answer - B

**Answer- B. USG for fetal cardiac activity**

**USG for fetal cardiac activity:**

- At 6 weeks it is routine to detect fetal cardiac activity by ultrasound
- 5 1/2 Yz to 6 weeks is usually a very good time to detect either a fetal pole or even a fetal heart beat by vaginal
- ultrasound.

**51. A 16-year old female presents with primary amenorrhea and raised FSH level. On examination, her height was 58 inches. What would be the histopathological finding in the ovary?**

a) Absence of oocytes in the ovaries (streak ovaries)

b) Mucinous cystadenoma

c) Psammoma bodies

d) Hemorrhagic corpus leuteum

Correct Answer - A

**Answer- A. Absence of oocytes in the ovaries (streak ovaries)**

Increased serum FSH and absent breast indicates primary ovarian failure. This is mostly caused by 'Gonadal Dysgenesis' (Turner's syndrome). Elevated FSH is due to absence of ovarian oocytes and follicles leading to reduction in negative feedback on FSH from estradiol and inhibins A and B.

## 52. Which of the following is not true about latent phase of labour?

- a) According to ACOG it starts after 3-4 cm cervical dilatation but they are planning to increase it to 5 cm
- b) Begins at the end of active phase and is a part of 1st stage of labour
- c) Patient may present with false labour due to mild cramps
- d) Starts with contractions of the uterus

Correct Answer - C

**Answer- C. Patient may present with false labour due to mild cramps**

It starts at the point at which mother perceives true labour pains and ends when cervix is 3cm dilated and 1.5 cm/hour for parous cervix.

Duration in nulliparous is 6-8 hours and 5.3 hours in multiparous (average 4-6 hours).

Mainly concerned with cervical effacement

**53. Dose of radiation for early and locally advanced cancer cervix at point A during brachytherapy?**

a) 70-75 Gray and 75- 80 Gray

b) 75-80 Gray and 80-85 Gray

c) 80-85 Gray and 85-90 Gray

d) 85-90 Gray and 90-95 Gray

Correct Answer - C

**Answer- C. 80-85 Gray and 85-90 Gray**

Early stage disease (nonbulky Stage I-II): 80-85 Gy

Advanced stage disease (bulky or Stage IIIB): 85-90 Gy

## 54. Which of the following babies has the least risk of developing hypoglycaemia?

a) A baby born to mother treated with beta blockers

b) Infant of diabetic mothers

c) Appropriate for gestational age babies

d) IUGR babies

Correct Answer - C

**Answer- C. Appropriate for gestational age babies**

**Hypoglycemia: Blood sugar level <40 mg/dl**

- Incidence: 1-3/1000 live births
- Incidence is increased several fold in certain high risk neonatal groups
- The premature and small for gestational age infants are vulnerable to the development of hypoglycemia
- **Low birth weight infants (Weight <2000 gms)**
- Preterm infants (<35 weeks)
- Small for gestational age (SGA) infants: Birth weight <10th percentile
- Infant of diabetic mothers (IDM) Insulin dependent and gestational diabetes
- Large for gestational age (LGA) infants: Birth weight >90th percentile
- Infants with Rh-hemolytic disease
- Infants born to mothers receiving therapy with Terbutaline/propranolol/Labetolol/oral hypoglycemic agents
- Infants with morphological IUGR

**55. What should be the time of termination of pregnancy of a female with insulin dependent diabetes?**

a) 40 weeks

b) 38 weeks

c) 37 weeks

d) 34 weeks

Correct Answer - A

**Ans. a. 40 weeks**

- In diabetic mothers, the fetal lung maturation delays due to delay in the completion of surfactant formation in fetal lung. Hence 40 weeks is the choice, the expected delivery can be delayed up to 40 weeks.

**56. Before ovulation development of granules in a cell is dependent on:**

a) Estrogen

b) Progesterone

c) FSH

d) LH

Correct Answer - A

**Ans. a. Estrogen**

- Estrogens are a steroid hormone which exists in three forms each of unique significance during a woman's life.
- Estradiol is the most common moiety during the non-pregnant reproductive years. It is converted from androgens (produced from cholesterol in the follicular theca cells), which diffuse into the follicular granulosa cells containing the aromatase enzyme that completes the transformation into estradiol.

**57. Placenta grade 3, 35+3 weeks pregnancy, and absent end diastolic flow in Doppler; next management is:**

a) Dexamethasone and terminate after 48 hours

b) Terminate after 37 weeks

c) Talk with pediatrician and termination

d) Monitor and do nothing

Correct Answer - A

**Ans. a. Dexamethasone and terminate after 48 hours**

- Antenatal Corticosteroid Therapy
- A single dose of corticosteroids is recommended for pregnant women with gestational age 23-34 weeks of gestation who are at risk of preterm delivery within 7 days.
- A complete course is
- Betamethasone two 1M 12 mg doses given 24 hours apart
- OR
- Dexamethasone four IM 6 mg doses given 12 hours apart.

**58. Partograph represents various stages of labor with respect to time. True about partograph is all except:**

- a) Each small square represents one hour
- b) Alert and action lines are separated by a difference of 4 hours
- c) Partograph recording should be started at a cervical dilation of 4 cm
- d) Send the patient to first referral unit if the labor progression line crosses the alert line

Correct Answer - C

**Ans: C. Partograph recording should be started at a cervical dilation of 4 cm**

(Ref: Williams 24/e p452)

**Partograph recording:**

- Started after a cervical dilation of 3 cm (not the 4 cm).
- i.e. During active stage of labor.
- Designed by WHO for use in developing countries.

**Stages of labor:**

- Labor à Divided into latent phase.
- Latent phase should last no longer than 8 hours.
- Active phase - Starts at 3 cm dilatation à progress should be no slower than 1 cm/hr.

**Recommended wait period:**

- 4-hour before intervention for slow active phase.
- Labor is graphed & analysis includes use of alert action lines.

## 59. What is the drug of choice for precocious puberty in girls?

a) GnRH analogues

b) Cyproterone acetate

c) Danazol

d) Medroxyprogesterone acetate

Correct Answer - A

**Ans: A. GnRH analogues**

(Ref- .Shaw 16/e p59).

**Precocious puberty – Treatment:**

- Depends on cause.

**Primary treatment goal:**

- Enable child to grow to a normal adult height.
- GnRH & Medroxy progesterone acetate.

**GnRH agonists:**

- Doc regardless of cause.
- DOC for halting premature sexual development.
- Effective in children with organic brain lesions causing central precocious puberty.
- Effective in identification of hypothalamic hamartoma (precocious puberty - only manifestation)

**60. A young female presented to you with primary amenorrhea. Examination reveals normal breast development and absent axillary hairs. Pelvic examination shows a normally developed vagina with clitoromegaly. On ultrasound, gonads are visible in the inguinal region. What is the most likely diagnosis?**

a) Complete androgen insensitivity syndrome

b) Partial androgen insensitivity syndrome

c) Mayer Rokitansky Kuster Hauser syndrome

d) Gonadal dysgenesis

Correct Answer - B

**Ans: B. Partial androgen insensitivity syndrome**

(Ref Williams 24/e p149. Shaw' 16/e p141, 15/e p111-112; Novaks 14/1037-1038; Dutta Gynae 6/e p424)

**Probable diagnosis:**

- Androgen insensitivity syndrome.
- Clitoromegaly points towards partial androgen insensitivity syndrome.

**Androgen Insensitivity Syndrome:**

- Testes produce normal amounts of Mullerian-inhibiting factor (MTf).
- Also referred as "Mullerian-inhibiting substance (MIS) or anti-Mullerian hormone/factor (AMH/AMF)".

**Diagnosis:**

- Identified in newborn period - Presence of inguinal masses.
  - Identified as testes during surgery.
  - Teenage years during primary amenorrhea evaluation.
- Features:**
- Adolescent patients without pubic, axillary hair, scanty body hair & lack acne.
  - No fallopian tubes, uterus or proximal (upper) vagina.
  - Normal breast - Due to normal testosterone to estradiol conversion.

## 61. Which of the following statements is not true about cervical cancer screening guidelines according to WHO?

a) Pap smear should be repeated yearly in women of reproductive age group

b) HPV test should be done five yearly in women between age of 30 to 49 years

c) Visual inspection with acetic acid is more reliable at older age as it becomes easier to identify the transformation zone with age

d) Pap smear can be repeated less frequently if it comes out negative for 3 consecutive years

Correct Answer - A

**Ans: A. Pap smear should be repeated yearly in women of reproductive age group**

(Ref Harrison 19/e p481, 18/e 1662)

**WHO cervical cancer screening guidelines:**

- Pap smear repeated 3 yrs once.

**Tests for cervical cancer screening:**

- 2 types – VIA & Pap smear.

**VIA (Visual inspection with acetic acid):**

- For women with visible transformation zone.
- Transformation zone - Most precancerous lesions occur.
- Preferred for younger than 50 females.
- Since menopause recedes transformation zone into endocervical canal & invisible

## 62. Which of the following statements is true regarding medical abortion?

a) Ultrasound should be done in all cases

b) If the patient has an IUCD in-situ, it doesn't need to be removed

c) Can only be done up to 72 days

d) Only a person certified under MTP act can perform medical termination of pregnancy

Correct Answer - D

**Ans: D. Only a person certified under MTP act can perform medical termination of pregnancy**

(Ref Shaw 16/e 28(, 15/e p244-245, William) 24/e p568).

- MTP can be performed up to 20 weeks according to MTP act.
- Ultrasound is not needed in all cases.
- Only certified person for MTP act can perform medical termination of pregnancy.

**63. When would you do trans-vaginal sonography in post-menopausal bleeding if endometrial thickness is?**

a) 5mm

b) 7mm

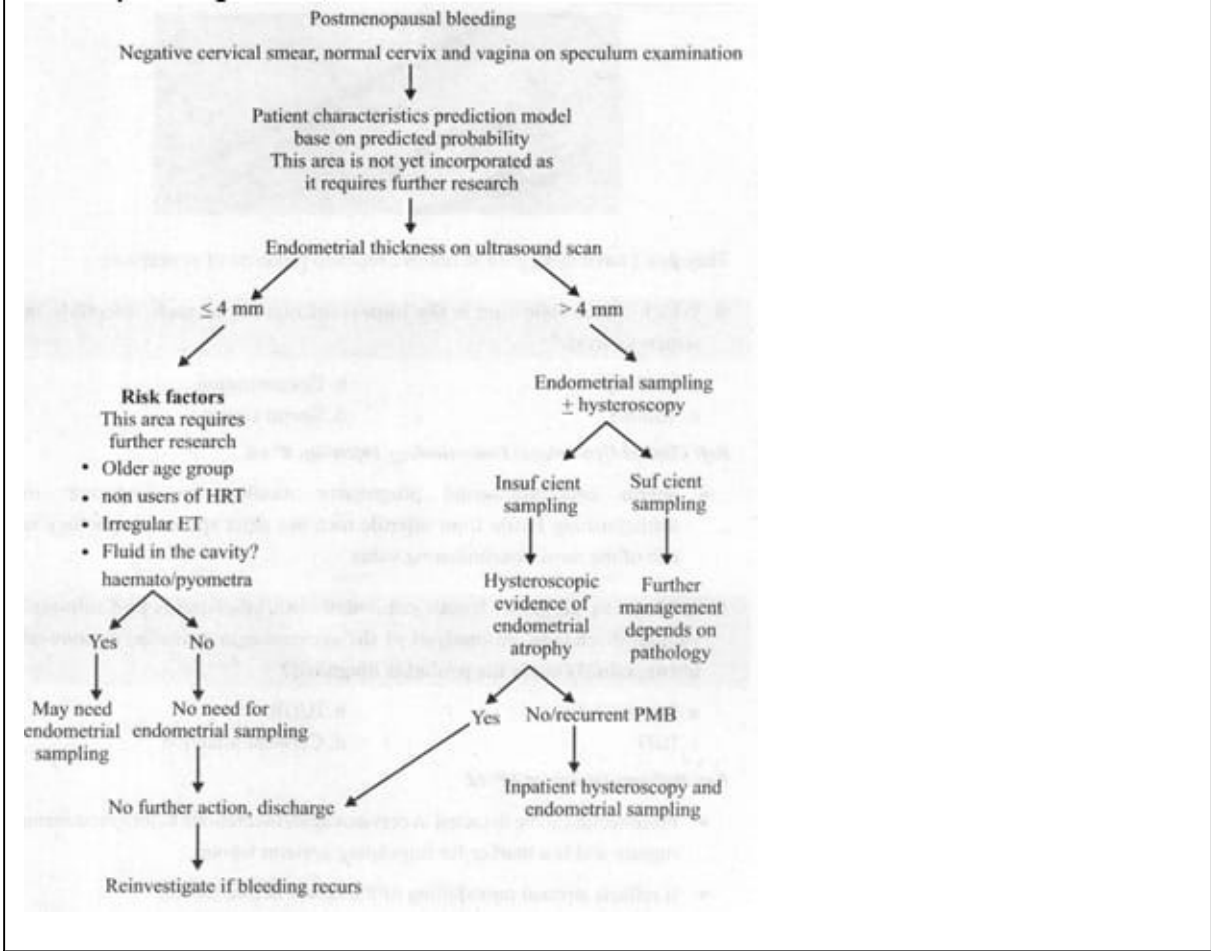
c) 4mm

d) 9mm

Correct Answer - A

**Ans. A. 5mm**

- *Ref: RCOG guidelines 2012*



**64. A 76-year-old female presented with non-healing ulcer on labia majora for 6 months measuring 2x3 cm with no palpable lymphadenopathy. Biopsy shows squamous cell carcinoma. Management includes?**

a) Radical vulvectomy with unilateral LN dissection

b) Radical vulvectomy with bilateral LN dissection

c) Simple vulvectomy

d) Chemoradiation with resection

Correct Answer - B

**Ans. B. Radical vulvectomy with bilateral LN dissection**

*Ref: Berek and Novaks gynecology, 15<sup>th</sup> ed., RCOG guidelines FIGO staging 2009*

**Locally advanced vulvar cancer (bulky stage III and stage IV)**

- Radical surgery (radical vulvectomy plus bilateral lymphadenectomy):
- If partial removal of other involved structures is needed (e.g., urethra, vagina, anus, bladder, rectum) and/or pelvic exenteration is necessary, consider preoperative chemoradiation

**Chemoradiation (with or without subsequent completion surgery):**

- This approach has been shown to decrease the need for exenterative surgery.

## 65. Absolute contraindication for CUT insertion?

a) Unmotivated person

b) Menorrhagia

c) Previous ectopic

d) Previous history of abortion

Correct Answer - A

**Ans. A. Unmotivated person**

*Ref: ACOG guideline 187, November 2017*

- CuT is MEC I in ectopic pregnancy, previous history of abortion so it is safe.
- Unmotivated person is absolute contraindication for any procedure.

**66. All of the following indicate Fetal lung maturity except?**

a) LecithiniSphingomyelin ratio >2

b) Positive shake test

c) Increased phosphatidyl glycerol

d) Blue cells in Nile Blue Test

Correct Answer - D

**Ans D. Blue cells in Nile Blue Test**

Ref: DC Dutla's textbook of Obstetrics,9't' ed.

- All of the above are correct except that it is the presence of more than 50 % orange coloured cells in Nile Blue test that suggests fetal pulmonary maturity.

**67. A 14 year girl presented with absent thelarche. On examination uterus was present. Investigations showed high FSH. karyotype is XY. What is the probable diagnosis?**

a) Gonadal dysgenesis

b) Kallman syndrome

c) Androgen insensitivity syndrome

d) Adrenal hyperplasia

Correct Answer - A

**Ans. A. Gonadal dysgenesis**

*Ref: Clinical Gynecologic Endocrinology & Infertility, 8<sup>th</sup> ed.*

**Gonadal dysgenesis (Swyer Syndrome):**

- Uncommon form of gonadal dysgenesis, characterized by a 46,XY karyotype.

**68. P3L3 came to opd with postcoital bleeding via and pap positive p/v cervix hypertrophied bleed on touch diagnosis -**

a) CA cervix

b) Fibroid

c) Cervicitis

d) Cervical polyp

Correct Answer - A

**Ans. A. CA cervix**

**SYMPTOMS:**

- Arises from: Squamo-columnar junction
  - Earliest symptom: Post-coital bleeding
  - **As the cancer progresses, symptoms may include:**
  - Unusual vaginal discharge
  - Vaginal bleeding between periods
  - Bleeding after menopause
  - Pyometra
  - Bleeding or pain during sex
  - MC site: Ectocervix
  - Lymph nodes affected: Obturator, hypogastric and external iliac
  - Time taken for conversion of CIN to invasive Ca: 10 years
  - MC type: Squamous cell Ca
  - 100% cure rates are seen in: CIS
  - **Uremia: altered sensorium and is having hiccups**
  - **MC cause of death: Renal failure**
  - **Ca cervix can be prevented by screening**
- Both positive Pap smear and VIA test is suggestive of CA cervix

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**69. 28 yr with infertility lapro tube uterus  
healthy ovary diagnosis -**

a) PCOS

b) Ovarian cyst

c) Fibroid

d) Endometriosis

Correct Answer - D

**Ans.D. Endometriosis**

- In endometriosis, cause of infertility is
- Immobility of tubes
- Anovulation
- Tubal block
- Male factor: 30%
- Tubal, uterine & peritoneal factor: 25%
- Ovarian factor: 25%
- Cervical factor: 10%
- Unexplained factor: 10%

**70. Fetal ECHO shows congenital heart block, what should be the mother screened for?**

a) SLE

b) Myxoma

c) APLA

d) None

Correct Answer - A

**Ans. a). SLE**

**Congenital heart block** is a rare disorder that occurs in about one out of 22,000 live births.

In most cases, the cause is not known, but babies of mothers **with** lupus or other autoimmune diseases, or babies **with congenital heart** disorders, are at higher risk.

Pregnant women who **have** autoimmune diseases, such as lupus or Sjogren's syndrome, are at an increased risk of having a **baby with congenital heart block**.

Also, a tumor on the **baby's heart** can cause **heart block**.

**71. A 26 years old patient c/o foul smelling greyish white discharge diagnosed to be Gardnerella vaginalis infection. Microscopic finding is suggestive of?**

- a) Group of bacilli arranged in chain forms
- b) Bacteria found to be engulfed by macrophages
- c) Bacteria adherent to lining vaginal epithelial cells
- d) Bacteria arranged in cluster forms

Correct Answer - C

**Ans C. Bacteria adherent to lining vaginal epithelial cells**

Gardnerella vaginalis, facultatively anaerobic gram-variable rod, is one of the organisms responsible for bacterial vaginosis (BV).

The vaginal discharge of BV is characteristically described as a thin, gray, homogeneous fluid that is adherent to the vaginal mucosa. A fishy vaginal odour, which is particularly noticeable following coitus is present.

Demonstration of clue cells on a saline smear is the most specific criterion for diagnosing BV.

The whiff test may be positive in up to 70% of BV patients.

The vaginal discharge of patients with BV is notable for its lack of polymorphonuclear leukocytes (PMNs), typically 1 or less than 1 PMN per vaginal epithelial cell.

**72. Pre eclampsia with torsades de pointes, stable vitals. The next best management will be-**

a) DC shock

b) MgSo<sub>4</sub>

c) IV Calcium

d) None

Correct Answer - B

**Ans. B. MgSo<sub>4</sub>**

MgSo<sub>4</sub> is Indicated to prevent seizures associated with pre-eclampsia, and for control of seizures with eclampsia

4-5 g (diluted in 250 mL NS/D5W) IV in combination with either (a) up to 10 g (20 mL of undiluted 50% solution) divided and administered IM into each buttock or (b) after initial IV dose, 1-2 g/hr IV; (c) May administer q. 4hr as necessary.

### 73. Anti D prophylaxis is administered in all except?

a) MTP at 63 days

b) Amniocentesis at 16 weeks

c) Manual removal of placenta

d) Intra-uterine transfusion 28 weeks

Correct Answer - D

#### **Ans. D. Intra uterine transfusion**

Anti D prophylaxis is not given after intrauterine transfusion.

Intrauterine transfusion is done to prevent the fetus from dying.

If the hydropic fetus is too immature for early delivery, intrauterine transfusion is done.

Transfusion is done through intraperitoneal and intravascular routes.

This is performed using O-negative, cytomegalovirus negative, washed irradiated packed red cell.

The volume to be transfused is roughly calculated by the formula: (weeks of gestation-20) multiplied by 10.

Transfusion is repeated whenever fetal hemoglobin levels falls below 10gm/dl.

**74. A 16 years old girl walks into your clinics and asks for Ca cervix vaccination. Which of the following should be administered?**

a) Gardasil 9

b) Biovac

c) Polymer 7

d) Cohen 5

Correct Answer - A

**Ans. A. Gardasil 9**

**Gardasil 9** is an **HPV vaccine** approved by the U.S. Food and Drug Administration and can be used for both girls and boys.

This **vaccine** can prevent most cases of **cervical cancer** if given before a girl or woman is exposed to the virus.

**HPV Vaccines**

\* Cervarix - Protects against HPV-16, 18.

\* Gardasil 4 Protects against HPV - 6, 11, 16, 18.

\* Gardasil -9 - Protects against HPV - 6, 11, 16, 18, 31, 33, 45, 52, 58.

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