

APPG 2013 Question Paper with Answers and Explanation

1. In Dysphonia Plica Ventricularis

(Ventricular Dysphonia) voice is produced by

ventricular folds

vocal cords

aryepiglottic fold

Epiglottis

Ans A

Dysphonia Plica Ventricularis (Ventricular Dysphonia)

Here voice is produced by ventricular folds (false cords) which have taken over the function of true cords. Voice is rough, low-pitched and unpleasant. Ventricular voice may be secondary to impaired function of the true cord such as paralysis, fixation, surgical excision, or tumours.

Ventricular bands in these situations try to compensate or assume phonatory function of true cords. Functional type of ventricular dysphonia occurs in normal larynx. Here cause is psychogenic. In this type, voice begins normally but soon becomes rough when false cords usurp the function of true cords. Diagnosis is made on indirect laryngoscopy; the false cords are seen to approximate partially or completely and obscure the view of true cords on phonation. Ventricular dysphonia secondary to laryngeal disorders is difficult to treat but the functional type can be helped through voice therapy and psychological counselling.

2. Lupus of the larynx mostly affects

Posterior part

Anterior part

Subglottis

Hypopharynx

Ans B

Syphilis affects the larynx and produces ulcers. These may involve almost any portion but usually they are anterior, involving the epiglottis. They are often associated with syphilitic manifestations in the mouth. Tuberculosis affects the posterior portion of the larynx and the bulb-like swellings of the arytenoids are almost pathognomonic. Ulcers when they occur are most marked posteriorly. This affection is associated with a blanching of the mucous membrane of the mouth and the presence of a white frothy mucus, which will lead the laryngologist to suspect the existence of the disease before a view of the larynx is obtained.

3. Lateral soft tissue X-Ray of neck may show "Thumb sign" in

acute epiglottitis

retropharyngeal abscess

laryngeal stenosis

fractures of larynx

Ans A

In radiology, the thumbprint sign, or thumbprinting, is a radiologic sign found on a lateral C-spine radiograph that suggests the diagnosis of epiglottitis. The sign is caused by a thickened free edge of the epiglottis, which causes it to appear more radiopaque than normal, resembling the distal thumb

4. Herpangina is caused by

Coxsackie virus

Herpes simplex

Staphylococcus

Fungus

Ans A

Herpangina, also called mouth blisters, is the name of a painful mouth infection caused by coxsackieviruses. Usually, herpangina is produced by one particular strain of coxsackie virus A (and the term "herpangina virus" refers to coxsackievirus A) [but it can also be caused by coxsackievirus B or echoviruses.[2] Most cases of herpangina occur in the summer,[3] affecting mostly children. However, it occasionally occurs in adolescents and adults

5. 'Recruitment phenomenon' is seen in one of the following conditions.

Meniere's disease

Otosclerosis

Otitis media

Mastoiditis

Ans A

Most patients with Ménière's disease (MD) reveal abnormal vestibular-evoked myogenic potentials (VEMPs) and the recruitment phenomenon, whereas most sudden deafness patients display normal VEMPs without the recruitment phenomenon

6. Which of the following is called the "Gateway of tears" ?

Killian's dehiscence

Rathke's pouch

Waldeyer ring

Sinus of Morgagni

Ans A

Killian's dehiscence is a potential triangular gap between the oblique fibers of thyropharyngeus and the transverse fibers of cricopharyngeus (Thyropharyngeus and cricopharyngeus are 2 parts of the inferior constrictor of pharynx)

It is named after German ENT surgeon – Gustav Killian

It is through this gap that the herniation of pharyngeal mucosa occurs in case of pharyngeal pouch (Zenker's diverticulum)

It is also called 'gateway of tears' as it is a common site for perforation during oesophagoscopy

7. Cold-air caloric test is done with

Dundas Grant tube

Montgomery T tube

Jackons tube

Fuller's tube

Ans A

Clinical tests for vestibular functions

Nystagmus

Test for gaze evoked nystagmus

Fistula test

Siegalization

Hennebert's sign

Fitzgerald Hallpike bithermal caloric test

Canal paresis

Directional preponderance

Modified Kobrak test

Dundas Grant Cold air caloric test

Dix Hallpike manoeuvre

Nystagmus in BPPV

Epley's manoeuvre

Tripod fracture is usually referred to as a fracture of

nasal bone

Mandible

Maxilla

Zygoma

Ans D

Fractures of zygoma are the most common fractures of the upper cheek, the most common of which is the tripod fracture of zygomatic bone involving 3 separate breaks of bones of skull, through: 1. infraorbital foramen and canal to the infraorbital groove 2. zygomaticoparietal suture of lateral margin of orbit 3. zygomatic arch usually at its narrowest point, where the suture between the zygomatic process of temporal bone and temporal process of zygomatic bone occurs.

8. Early Laryngeal cancer which neither impaired cord mobility nor invaded cartilage or cervical nodes is treated by

Chemotherapy

Radiotherapy –

Hemilaryngectomy

Total laryngectomy

Ans C

Hemilaryngectomy provided acceptable percent of local and regional recurrences, and good functional results: respiration, swallowing and voice quality. Therefore it could be the first choice surgery technique in treatment of T2 laryngeal carcinoma.

To discuss the treatment options for laryngeal cancer, one must differentiate early (I-II) and advanced (III-IV) stage disease.

Subsite location of the primary tumor, glottic, supraglottic or subglottic is also an important consideration when selecting therapy.

Early-stage laryngeal carcinomas (stage I-II) are ideally treated with voice-saving surgery.

Popularized and legitimized by Steiner and Ambrosch, transoral laser microsurgery is ideal for the treatment of early-intermediate glottic and supraglottic cancer. It is performed under suspension micro-laryngoscopy with a CO2 laser.

Advanced-stage laryngeal carcinomas (stage III) are usually treated with concurrent chemo-radiation therapy for organ preservation.

On the other hand, advanced laryngeal cancer (stage IV) is usually treated with total laryngectomy, reconstruction, and adjuvant postoperative chemoradiation therapy

Larynx carcinoma is repeatedly

10. Gelle's test is a popular test done for

Presbycusis

Serous otitis media

Otosclerosis .

Meniere's disease

Ans C

Gelles test was once a popular test to find out stapes fixation in otosclerosis, but now has been superceeded by tympanometry

11. Aqueous flare in incloyclifis is due to

- A. Platelets
- B. pigments
- C. RBCs
- D. Proteins

Ans D

• Aqueous flare is a pathognomonic sign of uveitis and is due to breakdown of the blood-ocular barrier with subsequent leakage of proteins into the anterior chamber. Aqueous flare is best detected using a very focal, intense light source in a totally darkened room. The passage taken by the beam of light is viewed from an angle. In the normal eye, a focal reflection is seen where the light strikes the cornea. The beam is then invisible as it traverses the almost protein- and cell-free aqueous humor in the anterior chamber. The light beam is visible again as a focal reflection on the anterior lens capsule and then as a diffuse beam through the body of the normal lens due to presence of lens proteins. If uveitis has allowed leakage of serum proteins into the anterior chamber then these will cause a scattering of the light as it passes through the aqueous. Aqueous flare is therefore detected when a beam of light joining the focal reflections on the corneal surface and the anterior lens capsule is visible traversing the anterior chamber. A slit lamp provides ideal conditions for detecting flare, however the beam produced by the smallest circular aperture on the direct ophthalmoscope held as closely as possible to the cornea in a completely darkened room and viewed transversely will also provide excellent results. The slit beam on the direct ophthalmoscope is not as intense and does not provide as many "edges" of light where flare can be appreciated most easily. Assessment of flare may be easier after complete pupil dilation due to the apparent dark space created by the pupil. Combined assessment of IOP and aqueous flare should be performed whenever glaucoma or uveitis is suspected because of the frequency with which these conditions co-exist.

12. The following laser beam is used in LAS 1K (Laser-Assisted in Situ Keratomileusis)

- A. Excimer
- B. Argon
- C. Diode
- D. Krypton

Ans A

LASIK is a surgical procedure which combines a micro-keratome (an automated knife for shaving the cornea) and an Excimer Laser (an ultraviolet light beam) to reshape the cornea.

13. Cobblestone appearance of the palpebral conjunctiva is seen in

- A. Trachoma
- B. Spring Catarrh
- C. Ophthalmia nodosa
- D. Long term use of miotics

Ans b

Allergic conjunctivitis is suggested by bilateral itchy eyes, a history of atopy, and a 'cobblestone' appearance of the upper palpebral conjunctiva.

• Signs of VKC can be described in three clinical forms.

1. Palpebral form- Usually upper tarsal conjunctiva of both the eyes is involved. Typical lesion is characterized by the presence of hard, flat-topped papillae arranged in cobblestone or pavement stone fashion. In severe cases papillae undergo hypertrophy to produce cauliflower-like excrescences of 'giant papillae'.

2. Bulbar form- It is characterised by dusky red triangular congestion of bulbar conjunctiva in palpebral area, gelatinous thickened accumulation of tissue around limbus and presence of discrete whitish raised dots along the limbus (Tranta's spots).

Mixed form- Shows the features of both palpebral and bulbar types

14. Subconjunctival haemorrhage frequently is seen in children with

- A. Whooping cough
- B. Measles
- C. Influenza
- D. Chicken pox

Ans A

Causes of Subconjunctival haemorrhage

- Eye trauma
- Congenital or acquired (coagulation disorder)
- Diving accidents - Mask squeeze (volume inside in mask creates increased pressure with increased depth)
- Head injury
- Whooping cough or other extreme sneezing or coughing [1] [2]
- Severe hypertension
- LASIK
- Acute hemorrhagic conjunctivitis (caused by Enterovirus 70 or Coxsackie A virus)
- Leptospirosis
- Increased venous pressure (e.g., extreme g-force, straining, vomiting, choking, or coughing)

Subconjunctival hemorrhages in infants may be associated with scurvy (a vitamin C deficiency),] abuse or traumatic asphyxia syndrome

15. Acute hydrops is seen in

- A. Keratoglobus
- B. Buphthalmos
- C. Keratoconus
- D. Bullous keratopathy

Ans C

Acute Corneal Hydrops

CLINICAL DESCRIPTION:

Corneal hydrops is an uncommon complication seen in patients with keratoconus. It is characterized by significant corneal edema resulting from a spontaneous rupture in Descemet's membrane. Clinical

findings include dense stromal and epithelial edema with corneal protrusion, possible conjunctival hyperemia and irregular epithelium secondary to microcystic edema

The location and area of the involved cornea is variable

16. Ciliary staphyloma is due to

- A. Scleritis
- B. irido cyclitis
- C. degenerative Myopia
- D. choroiditis

Ans a

Ciliary staphyloma

As the name implies, it is the bulge of weak sclera lined by ciliary body, which occurs about 2–3 mm away from the limbus. Its common causes are thinning of sclera following perforating injury, scleritis & absolute glaucoma.

Posterior staphyloma

In the posterior segment of the eye, typically diagnosed at the region of the macula, deforming the eye in a way that the eye-length is extended associated with myopia (nearsightedness). It is diagnosed by ophthalmoscopy, which shows an area of retinal excavation in the region of the staphyloma.

17. If you have to treat a patient with active trachoma all of the following drugs will be effective against Chlamydia, EXCEPT

- A. Azithromycin
- B. Ivermectin
- C. Rifampicin
- D. Erythromycin

Ans C

- Topical therapy regimes. It is best for individual cases. It consists of 1 percent tetracycline or 1 percent erythromycin eye ointment 4 times a day for 6 weeks or 20 percent sulfacetamide eye drops three times a day along with 1 percent tetracycline eye ointment at bed time for 6 weeks. The

continuous treatment for active trachoma should be followed by an intermittent treatment especially in endemic or hyperendemic area.

- Systemic therapy regimes. Tetracycline or erythromycin 250 mg orally, four times a day for 3-4 weeks or doxycycline 100 mg orally twice daily for 3-4 weeks or single dose of 1 gm azithromycin has also been reported to be equally effective in treating trachoma.
- Combined topical and systemic therapy regime. It is preferred when the ocular infection is severe (TI) or when there is associated genital infection. It includes: (i) 1 per cent tetracycline or erythromycin eye ointment 4 times a day for 6 weeks; and (ii) tetracycline or erythromycin 250 mg orally 4 times a day for 2 weeks.
- Ivermectin Inhibits Growth of Chlamydia trachomatis

18. Angular conjunctivitis is typically due to "Moraxella lacunata" which is a

- A. Gram negative diplococci
- B. Gram positive diplococci
- C. Gram negative diplobacilli
- D. Gram positive diplobacilli

Ans C

Morax-Axenfeld diplobacillus or Moraxella lacunata is a rod-shaped, Gram negative, non motile bacteria, generally present as diploid pairs. They cause one of the commonest forms of catarrhal conjunctiviti

19. Which one of the following lenses is manufactured from

19 Hydroxyethylmethacrylate (HEMA) ?

- A. Hard lenses
- B. Gas permeable lenses
- C. Soft lenses
- D. None of the above

Ans C

More common monomers in contact lens materials include:

Methylmethacrylate (MMA), which contributes hardness and strength

Silicone (SI), which increases flexibility and gas permeability through the material's silicon-oxygen

Fluorine (FL), bonds but has the disadvantage of poor wettability which also adds a smaller degree of gas permeability and improves wettability and

deposit resistance in silicone-containing lenses

Hydroxyethyl-methacrylate (HEMA), the basic water-absorbing monomer of most soft lenses

Methacrylic acid (MAA) and n vinyl pyrrolidone (NVP) mono-mers, both of which absorb high amounts of water and are usually adjuncts to HEMA to increase lens water content

Ethylene glycol dimethacrylate (EGDMA), a cross-linking agent that adds dimensional stability and stiffness but reduces water content

Hydroxyethylmethacrylate or HEMA is the monomer that is used to make the polymer polyhydroxyethylmethacrylate. The polymer is hydrophobic; however, when the polymer is subjected to water it will swell due to the molecule's hydrophilic pendant group. Depending on the physical and chemical structure of the polymer, it is capable of absorbing from 10 to 600% water relative to the dry weight. Because of this property, it was one of the first materials to be successfully used in the manufacture of flexible contact lenses

20 By using which one of the instruments corneal thickness can be best measured ?

- A. Optometer
- B. Ophthalmometer
- C. Ultrasonic Pachymeter
- D. Tensiometer

Ans c

A pachymeter is a medical device used to measure the thickness of the eye's cornea. It is used to perform corneal pachymetry prior to LASIK surgery, for Keratoconus screening, LRI surgery [8] and is useful in screening for patients suspected of developing glaucoma among other uses. Modern devices use ultrasound technology, while earlier models were based on optical principles. The ultrasonic Pachymeters traditionally have been devices that provide the thickness of the human cornea in the form of a number in micrometres that is displayed to the user. The newer generation of ultrasonic pachymeters.[9] work by way of Corneal Waveform (CWF).[10] Using this technology the user can capture an ultra high definition echogram of cornea,[11] think of it as a corneal A-scan. Pachymetry using the corneal waveform allows the user to more accurately measure the corneal thickness, have the ability to check the reliability of the measurements that were obtained, have the ability to superimpose corneal waveform[12] to monitor the change of patients cornea over time, and ability to measure structures within the cornea such as micro bubbles created in the cornea during femto-second laser flap cu

21. The engaging diameter in 'brow' presentation is

- A. sub mentobregmatic
- B. mento vertical
- C. sub occipito frontal
- D. occipito frontal

Ans B

The different presenting anteroposterior diameters of the fetus are presented below:

- attitude = flexed; presentation = vertex; mean presenting diameter = suboccipito-bregmatic (9.5 cm)
- attitude = deflexed +; presentation = deflexed; mean presenting diameter = occipito-frontal (11.5 cm)
- attitude = deflexed ++; presentation = brow; mean presenting diameter = mento-vertical (13.5 cm)
- attitude = deflexed +++; presentation = face; mean presenting diameter = submento-bregmatic (9.5 cm)

22. During normal involution, uterus becomes a pelvic organ by the end of

- A. first week
- B. second week
- C. fourth week
- D. sixth week

Ans B

by end of second week uterus becomes a pelvic organ

23. For the Rhesus positive new born of a Rhesus negative mother, all are indications for exchange transfusion EXCEPT

- A. Cord blood bilirubin level > 4 mg/dl
- B. Cord blood haemoglobin level < 11 gm/dl
- C. Rising level of bilirubin is over 1 mg/dl/hour despite phototherapy
- D. Total bilirubin level 10 mg/dl

Ans d

Early exchange transfusion has usually been performed because of anemia (cord hemoglobin < 11 g/dL), elevated cord bilirubin level (>70 $\mu\text{mol/L}$ or 4.5 mg/dL), or both.

A rapid rate of increase in the serum bilirubin level (>15-20 $\mu\text{mol/L/h}$ or 1 mg/dL/h) was an indication for exchange transfusion, as was a more moderate rate of increase (>8-10 $\mu\text{mol/L/h}$ or 0.5 mg/dL/h) in the presence of moderate anemia (11-13 g/dL).

The serum bilirubin level that triggered an exchange transfusion in infants with hemolytic jaundice was 350 $\mu\text{mol/L}$ (20 mg/dL) or a rate of increase that predicted this level or higher. Strict adherence to the level of 20 mg/dL has been jocularly referred to as vigintiphobia (fear of 20).

24. Which of the following is NOT a feature of severe pre-eclampsia ?

- A. BP 160 /110 mmHg
- B. Visual disturbances
- C. Oliguria

D. Convulsions

Ans D

one of the following findings is also necessary for a diagnosis of severe preeclampsia:

- Signs of central nervous system problems (severe headache, blurry vision, altered mental status)
- Signs of liver problems (nausea and/or vomiting with abdominal pain)
- At least twice the normal measurements of certain liver enzymes on blood test
- Very high blood pressure (greater than 160 systolic or 110 diastolic)
- Thrombocytopenia (low platelet count)
- Greater than 5g of protein in a 24-hour sample
- Very low urine output (less than 500mL in 24 hours)
- Signs of respiratory problems (pulmonary edema, bluish tint to the skin)
- Severe fetal growth restriction
- Stroke

25. All may be associated with oligo-hydramnios EXCEPT

- A. Amnion nodosum
- B. Placental insufficiency
- C. Fetal renal agenesis
- D. Rhesus isoimmunization

Ans D

Amnion nodosum are nodules on the fetal surface of the amnion, and is frequently present in oligohydramnios

It is typically caused by fetal urinary tract abnormalities such as unilateral renal agenesis (Potter's syndrome), fetal polycystic kidneys, or genitourinary obstruction. Uteroplacental insufficiency is another common cause. Most of these abnormalities can also be detected by obstetric ultrasound. It

may also occur simply due to dehydration of the mother, maternal use of angiotensin converting enzyme inhibitors, or without a determinable cause (idiopathic).

The diagnostic approach to polyhydramnios consists of (1) physical examination of the mother with an investigation for diabetes mellitus, diabetes insipidus, and Rh isoimmunization; (2) sonographic confirmation of polyhydramnios and assessment of the fetus; (3) fetal karyotyping; and (4) maternal serologic testing for syphilis.

26. For ultrasound diagnosis of chronic polyhydramnios, the amniotic fluid index should be more than

- A. 6 cm
- B. 12 cm
- C. 18 cm
- D. 25 cm

Ans D

Polyhydramnios (polyhydramnion, hydramnios, polyhydramnios) is a medical condition describing an excess of amniotic fluid in the amniotic sac. It is seen in about 1% of pregnancies] It is typically diagnosed when the amniotic fluid index (AFI) is greater than 24 cm

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@27. Which one defines 'precipitate labour' ?

- A. Rate of cervical dilatation > 3 cm / hour
- B. Rate of descent of head 2 cm / hour
- C. Combined first and second stages of labour < 2 hours
- D. All stages of labour completed within 6 hours

Ans C

@28. A multigravida with 26 weeks pregnancy presenting with Hb^o/o of 6 grams. The ideal management is

- A. oral iron therapy
- B. parental iron therapy a
- C. packed cell transfusion
- D. exchange transfusion

Indications for oral iron supplementation

Women with a Hb < 110g/l up until 12 weeks or <105g/l beyond 12 weeks should be offered a trial of therapeutic iron replacement. In the presence of known haemoglobinopathy, serum ferritin should be checked and women offered therapeutic iron replacement if the ferritin is <30 µg/l.

Treatment must begin promptly in the community. Referral to secondary care should be considered if there are significant symptoms and/or severe anaemia (Hb<70g/l) or advanced gestation (>34 weeks) or if there is no rise in Hb at 2 weeks

Parenteral iron should be considered from the 2nd trimester onwards and postpartum period in women with iron deficiency anaemia who fail to respond to or are intolerant of oral iron

29. Couvelaire uterus is a complication of

- A. Rupture uterus
- B. Torsion of gravid uterus
- C. Red degeneration of fibroid
- D. Severe form of concealed accidental haemorrhage

Ans D

Couvelaire uterus (also known as uteroplacental apoplexy)[1] is a life threatening condition in which loosening of the placenta (abruptio placentae) causes bleeding that penetrates into the uterine myometrium forcing its way into the peritoneal cavity.

"Couvelaire uterus" is a phenomenon wherein the retroplacental blood may penetrate through the thickness of the wall of the uterus into the peritoneal cavity. This may occur after abruptio placentae. The hemorrhage that gets into the decidua basalis ultimately splits the decidua, and the haematoma may remain within the decidua or may extravasate into the myometrium (the muscular wall of the uterus). The myometrium becomes weakened and may rupture due to the increase in intrauterine pressure associated with uterine contractions. This may lead to a life-threatening obstetrical emergency

30. Obstetric conjugate is the distance between

- A. lower border of symphysis pubis to sacral promontory
- B. upper border of symphysis pubis to sacral promontory
- C. lower border of symphysis pubis to tip of the coccyx
- D. prominent bony projection on the inner surface of pubis to sacral promontory

Ans D

Antero -posterior diameters:

- Anatomical antero-posterior diameter (true conjugate) = 11cm

from the tip of the sacral promontory to the upper border of the symphysis pubis.

- Obstetric conjugate = 10.5 cm

from the tip of the sacral promontory to the most bulging point on the back of symphysis pubis which is about 1 cm below its upper border. It is the shortest antero-posterior diameter.

- Diagonal conjugate = 12.5 cm

i.e. 1.5 cm longer than the true conjugate. From the tip of sacral promontory to the lower border of symphysis pubis.

- External conjugate = 20 cm

from the depression below the last lumbar spine to the upper anterior margin of the symphysis pubis measured from outside by the pelvimeter . It has not a true obstetric importance.

31. In pregnancy which one of the following heart diseases is associated with the least maternal mortality ?

- A. Aortic stenosis
- B. Marfan syndrome
- C. Pulmonary hypertension
- D. Patent ductus arteriosus

Ans D

Patent ductus arteriosus — Although predominantly found in females, patent ductus arteriosus (PDA) is of less practical importance as a complication of pregnancy since the clinical diagnosis is simple and because operative or catheter closure is routine and curative in childhood . An asymptomatic young woman with a small or moderate-sized ductus and normal pulmonary arterial pressure can anticipate an uncomplicated pregnancy, apart from the risk of infective endarteritis during delivery

Eisenmenger syndrome : Reported risk of maternal mortality in this disorder has ranged from 30 to 50 per cent

32. The risk of rupture of lower segment caesarean section scar during labour is

- A. more than 10%
- B. 5 to 8%
- C. about 0.2 to 1.5%

D. 4%

Ans C

There is a very small risk that the scar may separate or rupture during a VBAC. About 1 in 300 (0.3%) women attempting a VBAC may experience rupture of the scar on the uterus. Because of this, you will be offered continuous monitoring of your baby's heart beat during your labour if you decide on a VBAC. Studies have shown that the most common sign that a caesarean scar may be separating is a sustained drop in the baby's heart rate. Having continuous monitoring will reduce the risk of an adverse outcome to about 1 in 3,000 (0.03%). (This compares favourably to the over all risk of stillbirth for any pregnancy of 1 in 2,000)

33. Which drug is contraindicated in Malaria with pregnancy ?

- A. Quinine
- B. Mefloquine
- C. Chloroquine
- D. Primaquine

Ans D

34. Which one of the following is decreased during normal pregnancy ?

- A. Glomerular filtration rate
- B. Serum creatinine
- C. Tidal volume
- D. Plasma fibrinogen

Ans B

the physiologic increase in GFR during pregnancy normally results in a decrease in concentration of serum creatinine, which falls by an average of 0.4 mg/dl to a pregnancy range of 0.4 to 0.8 mg/dl.1 Hence, a serum creatinine of 1.0 mg/dl, although normal in a nonpregnant individual, reflects renal impairment in a pregnant woman

35. Which placenta praevia is called dangerous placenta praevia ?

- A. Type 4

- B. Type 3
- C. Type 2 posterior
- D. Type 1 posterior

Ans C

Type II posterior placenta previa is also known as 'Dangerous Placenta Previa

36. Brenner tumour of ovary is

- A. an epithelial tumour
- B. a sex cord stromal tumour
- C. an unclassified tumour
- D. a germ cell tumour

Ans A

Brenner tumors are uncommon tumours that are part of the surface epithelial- stromal tumor group of ovarian neoplasm

Epithelial-stromal tumors are classified on the basis of the epithelial cell type, the relative amounts of epithelium and stroma, the presence of papillary processes, and the location of the epithelial elements. Microscopic pathological features determine whether a surface epithelial-stromal tumor is benign, borderline, or malignant (evidence of malignancy and stromal invasion). Borderline tumors are of uncertain malignant potential.

This group consists of serous, mucinous, endometrioid, clear cell, and brenner (transitional cell) tumors, though there are a few mixed, undifferentiated and unclassified types.

37. The acidity of vagina is due to

- A. E. coil
- B. Anaerobic streptococci
- C. Diphtheroids
- D. Doderlein's bacilli

Ans D

Oral contraceptives, steroids, and antibiotics disrupt either the normal flora or the pH which is naturally acidic. This acidic environment is produced by the Doderlein's bacilli which is a normal flora found in the vagina it can be destroyed by broad-spectrum antibiotics (kills pretty much all bacteria). The acidic environment is produced by the Doderlein's bacilli and helps protect the vagina from the invading vaginal infections.

38. Human Chorionic Gonadotrophic (HOG) levels are increased in all of the following, EXCEPT

- A. Complete mole
- B. Partial mole
- C. Endodermal sinus tumour
- D. Choriocarcinoma

Ans C

The histology of EST is variable, but usually includes malignant endodermal cells. These cells secrete alpha-fetoprotein (AFP), which can be detected in tumor tissue, serum, cerebrospinal fluid, urine and, in the rare case of fetal EST, in amniotic fluid. When there is incongruence between biopsy and AFP test results for EST, the result indicating presence of EST dictates treatment.[1] This is because EST often occurs as small "malignant foci" within a larger tumor, usually teratoma, and biopsy is a sampling method; biopsy of the tumor may reveal only teratoma, whereas elevated AFP reveals that EST is also present. GATA-4, a transcription factor, also may be useful in the diagnosis of EST.

. Human chorionic gonadotropin can be used as a tumor marker, as its β subunit is secreted by some cancers including seminoma, choriocarcinoma, germ cell tumors, hydatidiform mole formation, teratoma with elements of choriocarcinoma, and islet cell tumor. For this reason a positive result in males can be a test for testicular cancer. The normal range for men is between 0-5 mIU/mL. Combined with alpha-fetoprotein, β -HCG is an excellent tumor marker for the monitoring of germ cell tumors

39. All are causes of deep dyspareunia EXCEPT

- A. Fixed retroverted uterus
- B. Prolapsed ovaries in pouch of Douglas
- C. Senile atrophy of vagina due to menopause
- D. Endometriosis of rectovaginal septum

Ans C

40. The following artery does not contribute to form the azygous arteries of vagina.

- A. Vaginal branch of uterine artery
- B. Inferior vesical
- C. Internal pudendal
- D. Middle rectal

Ans B

The Arterial Supply of the Vagina

- The vaginal artery is usually a branch of the uterine artery.
- It may, however, arise from the internal iliac artery.
- The 2 vaginal arteries anastomose with each other and with the cervical branch of the uterine artery.
- The internal pudendal artery and vaginal branches of the middle rectal artery also supply the vagina (branches of the internal iliac arteries).

These arteries form anterior and posterior azygos arteries to supply the vaginal wall

The uterine artery supplies branches to the cervix uteri and others which descend on the vagina; the latter anastomose with branches of the vaginal arteries and form with them two median longitudinal vessels—the vaginal branches of uterine artery (or azygos arteries of the vagina)—one of which runs down in front of and the other behind the vagina.

The vaginal artery (a. vaginalis) usually corresponds to the inferior vesical in the male; it descends upon the vagina, supplying its mucous membrane, and sends branches to the bulb of the vestibule, the fundus of the bladder, and the contiguous part of the rectum. It assists in forming the azygos arteries of the vagina, and is frequently represented by two or three branches.

The middle rectal artery usually arises with the inferior vesical artery, a branch of the internal iliac artery. It is distributed to the rectum, anastomosing with the inferior vesical artery, superior rectal artery, and inferior rectal artery.

In males, the middle rectal artery may give off branches to the prostate and the seminal vesicles, while in females it gives off branches to the vagina.

AZYGOS ARTERY OF VAGINA

This artery arises from the vaginal artery and anastomoses with vaginal branches of the uterine artery to complete the anastomotic longitudinal channel running from the ovary to the vagina in the broad

ligament and mesosalpinx. This anastomosis is mainly responsible for the vaginal cycle that is normally in synchrony with ovarian cycle. But a blockage of the anastomotic channel could lead to abnormal vaginal cyclicity. The branches of the azygos vessels also anastomose with the perineal branches from the internal pudendal artery in the perineum

41. Lymphatics from Glans of clitoris drain directly into

- A. internal iliac
- B. external iliac
- C. superficial inguinal
- D. gland of cloquet

Ans b

The glans penis, the glans clitoris, labia minora, and the terminal inferior end of the vagina drain into deep inguinal nodes and external iliac nodes

42. In Mayer Rokitansky Kuster Hauser syndrome the following features are present, EXCEPT

- A. Well developed breasts
- B. Absence of vagina
- C. Mullerian agenesis
- D. Inguinal testis

Ans D

The following may be observed in patients with Mayer-Rokitansky-Kuster-Hauser (MRKH) syndrome:

- Primary amenorrhea and possible cyclic abdominal pain
- o These symptoms are common in individuals with Mayer-Rokitansky-Kuster-Hauser syndrome.
- o The patient undergoes puberty with normal thelarche and adrenarche; however, menses do not begin.
- o Patients may report cyclic abdominal pain due to cyclic endometrial shedding without a patent drainage pathway.

- Because ovarian function is normal, patients experience all bodily changes associated with menstruation and puberty.
- o Normal secondary female sexual characteristics are present after puberty.
- o Height is normal.
- o Speculum examination of the vagina may be impossible or difficult because of the degree of vaginal agenesis.
- o The vulva, labia majora, labia minora, and clitoris are normal.
- o A palpable sling of tissue may be present at the level of the peritoneal reflection.

43. In a 24 year old nulliparous woman with third degree utero vaginal prolapse, the operation of choice is

- A. Purandare's cervico pexy
- B. Shirodkar's sling operation
- C. Le Fort's repair
- D. Extended Manchester operation

Ans b

Extended Manchester operation : for cervical elongation

Le Fort's repair : for older women

44. The following feature is NOT present in Kallman's syndrome

- A. Bilateral absence of vas deference
- B. Anosmia
- C. Colour blindness
- D. Gonadotrophin deficiency

Ans A (Cis also possible)

- It is normally difficult to distinguish a case of KS/HH from a straightforward constitutional delay of puberty. However if a boy or girl has not started puberty by either 14 (girls) or 15 (boys) and they have one of the non-reproductive features then a referral to reproductive endocrinologist might be advisable.

- Reproductive features

- o Failure to start or fully complete puberty in both men and women

- o Lack of testicular development in men; size <3 ml

- o Primary amenorrhoea or failure to start menstruation in women

- o Poorly defined secondary sexual characteristics in both men and women.

- o Infertility

- Non-reproductive features

- o Hypogonadotropic hypogonadism (a lack of the pituitary hormones luteinizing hormone and follicle-stimulating hormone)

- o Congenital (present from birth)

- o Total lack of sense of smell (anosmia) or markedly reduced sense of smell (hyposmia). This is the defining feature of Kallmann syndrome; it is not seen in other cases of HH. Approximately 50% of HH cases occur with anosmia and can be termed as Kallmann syndrome.

- o Cleft palate or other craniofacial defects.

- o Unilateral renal agenesis or aplasia; absence or non-functioning of one of the kidneys

- o Cryptorchidism; un-descended testicles at birth, occurs in 30% of KS/HH cases

- o Micropenis, occurs in less than 5 to 10% of KS/HH cases

- o Neural hearing defects

- o Synkinesis or mirror movements of hands

- o Dental defects

- o Normally normal stature, but can have an increase in height if treatment is delayed due to the lack of testosterone or oestrogen causing excess bone growth in the arms and legs

At one stage it was thought that colour blindness was linked to KS/HH but this has proved not to be the case.

Patients with KS/HH lack a surge of GnRH, LH and FSH that occurs between birth and six months of age.[12] This surge is particularly important in infant boys as it helps with testicular descent into the

scrotum. A small percentage of boys with KS/HH will be born with micropenis and/or undescended testes, both of which should be treated and corrected in the first year of life. The surge of GnRH/LH/FSH in non KS/HH children gives detectable levels of testosterone in boys and oestrogen & progesterone in girls. The lack of this surge can sometimes be used as a diagnostic tool if KS/HH is suspected in a newborn boy, but is not distinct enough for diagnosis in girls.

45. All of the following are present in polycystic ovary syndrome EXCEPT

- A. Elevated luteinizing hormone
- B. Elevated androstenedione
- C. Raised serum hormone binding globulin
- D. Raised serum insulin

Ans C

SHBG and polycystic ovarian syndrome (PCOS)

Sex hormone binding globulin (SHBG) is a protein that binds to both testosterone and estradiol. Its amount can vary widely in patients, and if the SHBG is either low or high, the amount of active (bioavailable) testosterone can vary widely. Therefore, it is very important to measure SHBG in all patients being evaluated for polycystic ovarian syndrome, as well as other patients such as patients with hypopituitarism.

SHBG is reduced in insulin resistance and actually a very good marker for insulin resistance. Many women with polycystic ovarian syndrome have a high-normal or even a normal total testosterone but have a low SHBG because they have insulin resistance. Therefore, their bioavailable testosterone is often on the high side.

46. After 72 hours of unprotected coitus, the emergency contraception of choice is

- A. Levonorgestrel
- B. Premarin
- C. Yuzpe method
- D. Copper T

Ans d

Copper upto 5 days

47. The lifespan of Copper T — 380 A is

- A. 3 years
- B. 5 years
- C. 7 years
- D. 10 years

Ans D

- Copper T380A has a loading capsule and insertion tube with graduated scale card included. It loads in seconds and can be used as emergency contraception for up to 5 days after unprotected sex.
- Copper T380A has a shelf life of 7 years and has an intra-uterine life span of 10 years giving your patient a decade of confidence.

48. Hormone releasing intrauterine device Mirena releases how many microgram of levonorgestrel per day ?

- A. 10
- B. 20
- C. 30
- D. 40

Ans B

Mirena is intended to provide an initial release rate of 20 µg/day of levonorgestrel.

49. Which one of the following regarding "Progestin-only" contraceptive pills is NOT correct ?

- A. Mainly cause anovulation
- B. Can be used in diabetes mellitus
- C. No adverse effect on lactation
- D. Break through bleeding is common

Ans a

Breakthrough bleeding or spotting can occur with progestin-only pills

Lacking the estrogen of combined pills, they are not associated with increased risks of DVT or heart disease. With the decreased clotting risk, they are not contraindicated in the setting of sickle-cell disease. The progestin-only pill is recommended over regular birth control pills for women who are breastfeeding because the mini-pill does not affect milk production (estrogen reduces the amount of breast milk). Like combined pills, the minipill decreases the likelihood of pelvic inflammatory disease.

It is unclear whether POPs provide protection against ovarian cancer to the extent that COCP do.

There are fewer serious complications than on COCP

The mechanism of action of progestogen-only contraceptives depends on the progestogen activity and dose.[1]

- Very-low-dose progestogen-only contraceptives, such as traditional progestogen-only pills (and subdermal implants Norplant and Jadelle and intrauterine systems Progestasert and Mirena), inconsistently inhibit ovulation in ~50% of cycles and rely mainly on their progestogenic effect of thickening the cervical mucus, thereby reducing sperm viability and penetration.
- Intermediate-dose progestogen-only contraceptives, such as the progestogen-only pill Cerazette (or the subdermal implant Nexplanon), allow some follicular development (part of the steps of ovulation) but much more consistently inhibit ovulation in 97–99% of cycles. The same cervical mucus changes occur as with very-low-dose progestogens.
- High-dose progestogen-only contraceptives, such as the injectables Depo-Provera and Noristerat, completely inhibit follicular development (see above) and ovulation. The same cervical mucus changes occur as with very-low-dose and intermediate-dose progestogens.

50. Which one is NOT TRUE about Nonoxyno1-9 as a contraceptive ?

- A. Immobilizes sperms
- B. Should not be removed for 6 hours after intercourse
- C. Failure rate is about 10/HWY
- D. Increased risk of toxic shock syndrome

Ans C

Failure rate 23 /HWY

Some people are allergic to the spermicide used in the sponge. Women who use contraceptive sponges have an increased risk of yeast infection and urinary tract infection. Improper use, such as leaving the sponge in too long, can result in toxic shock syndrome.

The sponge can be inserted up to 24 hours before intercourse. It must be left in place for at least six hours after intercourse. It should not be worn for more than 30 hours in a row

61. All the following similarities are TRUE regarding DNA and RNA, EXCEPT `-

- A. Both have adenine, guanine, cytosine
- B. Pentose sugar is ribose
- C. Main function involves protein biosynthesis
- D. The bonding is in 3'-5' direction

Ans B

The chemical structure of RNA is very similar to that of DNA, but differ in three main ways:

- Unlike double-stranded DNA, RNA is a single-stranded molecule in many of its biological roles and has a much shorter chain of nucleotides. However, RNA can, by complementary base pairing, form intrastrand double helices, as in tRNA.
- While DNA contains deoxyribose, RNA contains ribose (in deoxyribose there is no hydroxyl group attached to the pentose ring in the 2' position). These hydroxyl groups make RNA less stable than DNA because it is more prone to hydrolysis.
- The complementary base to adenine is not thymine, as it is in DNA, but rather uracil, which is an unmethylated form of thymine

62. One of the following has energy-rich bonds

- A. Glucose
- B. Long chain fatty acids
- C. Gamma globulins
- D. Guanosine triphosphate (GTP)

Ans D

63. Coenzyme A contains the Vitamin

- A. Biotin
- B. Niacin
- C. Pyridoxine
- D. Pantothenic acid

Pantothenic acid is found throughout living cells in the form of coenzyme A (CoA)

64. Blood levels of which of the following amino acids serve as an index of the increased risk of cardiovascular disease ?

- A. Cysteine
- B. Methionine
- C. Homoserine
- D. Homocysteine

Ans D

65. Profuse watery diarrhoea in Cholera is due to following action of its toxin

- A. Phosphorylation of inhibitory G protein (Gi)
- B. ADP ribosylation of stimulatory G protein (Gs)
- C. ADP ribosylation of inhibitory G protein (Gi)
- D. Phosphorylation of stimulatory G protein (Gs)

Ans B

CTA1 is then free to bind with a human partner protein called ADP-ribosylation factor 6 (Arf6); binding to Arf6 drives a change in the shape of CTA1 which exposes its active site and enables its catalytic activity.[5] The CTA1 fragment catalyses ADP-ribosylation of the G α s proteins using NAD. The ADP-ribosylation causes the G α s subunit to lose its catalytic activity in hydrolyzing GTP to GDP + Pi so it remains activated longer than normal. Increased G α s activation leads to increased adenylate cyclase

activity, which increases the intracellular concentration of cAMP to more than 100-fold over normal and over-activates cytosolic PKA.

66. Anti-platelet effect of Aspirin is due to inhibition of synthesis of

- A. PGE₂
- B. PGI₂
- C. TXA₂
- D. PGF₂

Ans C

TXA₂ is generated from prostaglandin H₂ by thromboxane-A synthase. Aspirin irreversibly inhibits platelet cyclooxygenase 1 preventing the formation of prostaglandin H₂, and therefore thromboxane A₂.

67. Which of the following 5-HT agonists is anti anxiety drug ?

- A. Buspirone
- B. Cisapride
- C. Renzapride
- D. Rizatriptan

Ans A

Buspirone functions as a serotonin 5-HT_{1A} receptor partial agonist

It is this action that is thought to mediate its anxiolytic and antidepressant effects. Additionally, it functions as a presynaptic dopamine agonist D₂, D₃, dopamine antagonist D₄, as well as a partial α_1 receptor agonist

68. Which of the following statements is NOT correct about Sulfonylureas ?

- A. Orally effective
- B. Used in insulin dependent Diabetes Mellitus (Type-1)
- C. Causes insulin secretion
- D. Long term use down regulates sulfonylurea receptors

Ans B

69. A novel nicotinic agonist approved recently for use in smoking cessation is

- A. rimonabant
- B. varenicline
- C. nefopam
- D. pimozide

Ans B

Varenicline is a prescription medication used to treat smoking addiction. Varenicline is a nicotinic receptor partial agonist - it stimulates nicotine receptors more weakly than nicotine itself does. In this respect it is similar to cytisine and different from the nicotinic antagonist, bupropion, and nicotine replacement therapies (NRTs) like nicotine patches and nicotine gum. As a partial agonist it both reduces cravings for and decreases the pleasurable effects of cigarettes and other tobacco products. Through these mechanisms it can assist some patients to quit smoking.

70. Which of the following effects is NOT produced by Cholinomimetics ?

- A. Miosis
- B. Bronchospasm
- C. Urinary retention
- D. Spasm of accommodation

Ans C

51. All are derivatives of neural crest EXCEPT

- A. Schwann cells

B. Dorsal root ganglion

C. Adrenal cortex

D. Melanocytes

Ans C

Neural Crest derivatives

Neural crest cells are a transient, multipotent, migratory cell population unique to vertebrates that gives rise to a diverse cell lineage including melanocytes, craniofacial cartilage and bone, smooth muscle, peripheral and enteric neurons and glia

Mesectoderm: odontoblasts, dental papillae, the chondrocranium (nasal capsule, Meckel's cartilage, scleral ossicles, quadrate, articular, hyoid and columella), tracheal and laryngeal cartilage, the dermatocranium (membranous bones), dorsal fins and the turtle plastron (lower vertebrates), pericytes and smooth muscle of branchial arteries and veins, tendons of ocular and masticatory muscles, connective tissue of head and neck glands (pituitary, salivary, lachrymal, thymus, thyroid) dermis and adipose tissue of calvaria, ventral neck and face

Endocrine Cells: chromaffin cells of the adrenal medulla, parafollicular cells of the thyroid, glomus cells type I/II

Peripheral nervous system: Sensory neurons and glia of the dorsal root ganglia, cephalic ganglia (VII and in part, V, IX, and X), Rohon-Beard cells, some Merkel cells in the whisker Satellite glial cells of all autonomic and sensory ganglia, Schwann cells of all peripheral nerves

52. Branches of lumbar plexus which emerge from anterior surface of psoas major muscle is

A. iliohypogastric nerve

B. ilioinguinal nerve

C. genitofemoral nerve

D. obturator nerve

Ans C

Branches:

The small motor branches of the plexus are distributed directly to the psoas major muscle. The large motor branches leave the muscle along its lateral and medial borders and along the anterior surface. Consequently, they are categorized as follows;

Branches leaving the lateral border of psoas:

These include the following branches (in order from above downward)

- Iliohypogastric nerve: It supplies the skin of lower part of anterior abdominal wall.
- Ilioinguinal nerve: It passes through the inguinal canal to supply the skin of groin and scrotum (in males) or labium majus (in females).
- Lateral cutaneous nerve of thigh: It crosses the iliac fossa in front of the iliacus muscle and enters the lateral aspect of thigh behind the lateral end of inguinal ligament. It supplies the skin over the lateral surface of thigh.
- Femoral nerve: It is the largest branch of lumbar plexus. It enters the thigh lateral to the femoral sheath and supplies various muscles. In the abdomen, it supplies the iliacus muscle.

Branches leaving the medial border of psoas:

- Obturator nerve: It crosses the pelvic brim in front of the sacroiliac joint and then leaves the pelvis by passing into the thigh through the obturator foramen.
- Fourth lumbar root of lumbosacral trunk: It emerges from the medial border of the psoas at the pelvic brim. It takes part in the formation of sacral plexus.

Branches leaving the anterior surface of psoas:

Genitofemoral nerve: After emerging from the anterior surface of the muscle, it runs down in front of it and divides into a genital branch and a femoral branch. The former supplies the cremaster muscle and the latter supplies a small area of skin of thigh.

53. Round window (fenestra cochlea) of middle ear is closed by

- A. foot plate of stapes
- B. secondary tympanic membrane
- C. vestibular membrane
- D. foot plate of incus

Ans b

The round window is one of the two openings into the inner ear. It is closed off from the middle ear by the round window membrane, which vibrates with opposite phase to vibrations entering the inner ear through the oval window. It allows fluid in the cochlea to move, which in turn ensures that hair cells of the basilar membrane will be stimulated and that audition will occur.

The secondary tympanic membrane (or round window membrane) covers the round window, sealing off one of two openings into the inner ear. It separates the scala tympani of the cochlea from the middle ear. It vibrates with opposite phase to vibrations entering the cochlea through the oval window as the fluid in the cochlea is displaced when pressed by the stapes at the oval window. This ensures that hair cells of the basilar membrane will be stimulated and that audition will occur.

54. Portal vein formation lies

- A. behind the second part of duodenum
- B. posterior to the neck of the pancreas ,r
- C. posterior to the body of the pancreas
- D. posterior to the tail of the pancreas

Ans b

The pancreas, an exocrine and endocrine gland, has a head, neck, body, and tail. The portal vein is formed posterior to the neck of the pancreas by the union of the superior mesenteric and splenic veins.

55. The knee joint is supported by all the following ligaments, EXCEPT

- A. Anterior cruciate ligament
- B. Inverted Y-shaped ligament of Bigelow
- C. Oblique popliteal ligament
- D. Fibular collateral ligament

Ans B

The iliofemoral ligament is a ligament of the hip joint which extends from the ilium to the femur in front of the joint. It is also referred to as the Y-ligament (see below) or the ligament of Bigelow, and any combinations of these names.

With a tensile strength exceeding 350 kg (772 lbs),[1] the iliofemoral ligament is not only stronger than the two other ligaments of the hip joint, the ischiofemoral and the pubofemoral, but also the strongest ligament in the human body and as such is an important constraint to the hip joint

56. Stimulation of J receptors causes all of the following EXCEPT

- A. Bradycardia
- B. Hypotension
- C. Hypertension
- D. Rapid breathing

Ans C

J-receptors (juxtacapillary) are nerves innervating into the body of the lung. They are present in the alveolar interstitium and are innervated by fibers of the vagus nerve.[1] J-receptors respond to events such as pulmonary edema, pulmonary emboli, pneumonia, congestive heart failure and barotrauma, which cause a decrease in oxygenation and thus lead to an increase in ventilation/respiration. They may be also stimulated by hyperinflation of the lung as well as intravenous or intracardiac administration of chemicals.

The stimulation of the J-receptors causes a reflex increase in breathing rate, and is also thought to be involved in the sensation of dyspnea, the subjective sensation of difficulty breathing. [2][3] The reflex response that is produced is apnea followed by rapid breathing, bradycardia, and hypotension (pulmonary chemoreflex). The physiologic role of this reflex is uncertain, but it probably occurs in pathologic states such as pulmonary congestion or embolization.[4] These receptors were discovered by Dr. A.S Paintal

57. The structures, outside the blood brain barrier are all the following, EXCEPT

- A. Neurohypophysis.
- B. Area postrema
- C. OVLT
- D. Locus ceruleus

Ans D

Circumventricular organs (CVOs) are structures in the brain that are characterized by their extensive vasculature and lack of a normal blood brain barrier (BBB).[1] The CVOs allow for the linkage between the central nervous system and peripheral blood flow; additionally they are an integral part of

neuroendocrine function.[2] The lack of a blood brain barrier allows the CVOs to act as an alternative route for peptides and hormones in the neural tissue to the peripheral blood stream, while still protecting it from toxic substances.[3][4] CVOs can be classified in two ways, the sensory and the secretory organs.

The sensory organs include the area postrema (AP), the subfornical organ (SFO) and the organum vasculosum of lamina terminalis (OVLT.) They have the ability to sense plasma molecules and then pass that information into other regions of the brain. Through this, they provide direct information to the autonomic nervous system from systemic circulation

The secretory organs include the subcommissural organ (SCO), the posterior pituitary (also known as the neurohypophysis), the pineal gland, the median eminence and the intermediate lobe of the pituitary.[2] These organs are responsible for secreting hormones and glycoproteins into the peripheral vascular system using feedback from both the brain environment and external stimuli.

All of the circumventricular organs, besides the SCO, contain extensive vasculature and fenestrated capillaries which leads to a 'leaky' BBB at the site of the organs. Furthermore, all CVOs contain neural tissue, allowing them to play a role in the neuroendocrine system. It is highly debated if the choroid plexus can be included as a CVO. It has a high concentration of fenestrated capillaries, but its lack of neural tissue and its primary role of producing cerebrospinal fluid (CSF) usually excludes the choroid plexus from the CVO classificatio

The locus coeruleus (also spelled locus caeruleus) is a nucleus in the pons (part of the brainstem) involved with physiological responses to stress and panic

The locus coeruleus is the principal site for brain synthesis of norepinephrine (noradrenaline). The locus coeruleus and the areas of the body affected by the norepinephrine it produces are described collectively as the locus coeruleus-noradrenergic system or LC-NA system.[3] Norepinephrine may also be released directly into the blood from the adrenal medulla.

58. All are TRUE regarding erythropoietin, EXCEPT

- A. In adults about 80% of it comes from the kidneys and 15% from the liver.
- B. It 'is a glycoprotein with a molecular weight of about 34,000.
- C. Its function is to stimulate red cell production, and its formation in response to hypoxia.
- D. Its blood level is markedly decreased in anemia.

Ans D

EPO, is a glycoprotein hormone that controls erythropoiesis, or red blood cell production. It is a cytokine (protein signaling molecule) for erythrocyte (red blood cell) precursors in the bone marrow. Human EPO has a molecular weight of 34,000.

Erythropoietin levels in blood are quite low in the absence of anemia, at around 10 mU/mL. However, in hypoxic stress, EPO production may increase a 1000-fold, reaching 10,000 mU/mL of blood. EPO is produced mainly by peritubular capillary lining cells of the renal cortex; which are highly specialized epithelial-like cells. It is synthesized by renal peritubular cells in adults, with a small amount being produced in the liver

Regulation is believed to rely on a feed-back mechanism measuring blood oxygenation.[10] Constitutively synthesized transcription factors for EPO, known as hypoxia-inducible factors (HIFs), are hydroxylated and proteosomally digested in the presence of oxygen

59. The major stimulus for receptive relaxation of the stomach is

- A. food in the stomach
- B. food in the intestine
- C. CCK
- D. secretin

Ans A

Vagovagal reflex refers to gastrointestinal tract reflex circuits where afferent and efferent fibers of the vagus nerve[2] coordinate responses to gut stimuli via the dorsal vagal complex in the brain. The vagovagal reflex controls contraction of the gastrointestinal muscle layers in response to distension of the tract by food. This reflex also allows for the accommodation of large amounts of food in the gastrointestinal tracts.

The parasympathetic vagus nerve composed of both afferents and efferents carries signals from stretch receptors, osmoreceptors, and chemoreceptors to dorsal vagal complex where the signal may be further transmitted to autonomic centers in the medulla. Efferent fibers of the vagus then carry signals to the gastrointestinal tract up to 2/3 of the Transverse Colon (coinciding with the second GI Watershed Point).

[edit]Function

The vagovagal reflex is active during the receptive relaxation of the stomach in response to swallowing of food (prior to it reaching the stomach).

When food enters the stomach a "vago-vagal" reflex goes from the stomach to the brain, and then back again to the stomach causing active relaxation of the smooth muscle in the stomach wall.

If vagal innervation is interrupted then intra-gastric pressure increases.

The vagal afferents are activated during the gastric phase of digestion when the corpus and fundus of the stomach are distended secondary to the entry of a food bolus. The stimulation of the mechanical receptors located in the gastric mucosa stimulates the vagus afferents. The completion of the reflex circuit by vagus efferents leads to the stimulation of postganglionic muscarinic nerves. These nerves release acetylcholine to stimulate two end effects. One, the parietal cells in the body of the stomach are stimulated to release H^+ . Two, the ECL cells of the lamina propria of the body of the stomach are stimulated to release histamine. Vagal stimulation of the peptidergic neurons, occurring simultaneously, leads to the release of gastrin-releasing-peptide. Finally, the Delta cells are inhibited to reduce the inhibition of gastrin release.

60. Deuterium oxide is used to measure the volume of

A. extracellular fluid

B intracellular fluid

C plasma

D total body water

Ans D

Total body water (body composition) has been measured using stable isotopes of oxygen (oxygen-18) and deuterium (deuterium oxide, D_2O) for more than 40 years. The principle is based on the theory that water is distributed in all parts of the body except body fat. Most researchers chose deuterium oxide to estimate total body water due to the lower cost of isotope. The 4% overestimation of total body water by the technique can be corrected in the final calculations.

71. An organism that does NOT grow at normal atmospheric tension but requires traces of oxygen in metabolism is known as

A. microaerophilic

B. capnophilic

C. facultative anaerobe

D. aerotolerant anaerobe

Ans A

A microaerophile is a microorganism that requires oxygen to survive, but requires environments containing lower levels of oxygen than are present in the atmosphere (~20% concentration). Many microphiles are also capnophiles, as they require an elevated concentration of carbon dioxide. In the laboratory they can be easily cultivated in a candle jar. A candle jar is a container into which a lit candle is introduced before sealing the container's airtight lid. The candle's flame burns until extinguished by oxygen deprivation, which creates a carbon dioxide-rich, oxygen-poor atmosphere in the jar.

Examples include:

Borrelia burgdorferi, a species of spirochaete bacteria that causes Lyme disease in humans.

Helicobacter pylori, a species of proteobacteria that has been linked to peptic ulcers and some types of gastritis. Some do not consider it a true obligate microaerophile.[1]

Campylobacter has been described as microaerophilic.[2]

Streptococcus intermedius has also been described as microaerophilic.

Streptococcus pyogenes, a well known microaerophile that causes streptococcal pharyngitis.

72. Intracellular survival of *M.tuberculosis* is due to

A. Interference with oxidative burst

B. Prevention of fusion of phagosome with lysosome

C. Inhibition of degranulation

D. Resistance to lysosomal enzymes

Ans B

Intracellular parasites (e.g., *Mycobacterium tuberculosis*, *Toxoplasma gondii*, and some *Chlamydiae*) may promote their survival within the host by acting from within phagosomes to prevent phagolysosome formation, thus avoiding exposure to the lysosomal hydrolases

73. Enterotest is done for the diagnosis of

- A. Intestinal amoebiasis
- B. Trypanosomiasis
- C. Giardiasis
- D. Leishmaniasis

Ans C

It is well recognised that stool examination is an unsatisfactory method of searching for *Giardia lamblia*. The parasite lives primarily in the duodenum and jejunum and is therefore more readily found in duodenojejunal aspirate'. The parasite is excreted in intermittent 'showers' and it is therefore likely that an isolated stool specimen could be negative despite a heavy *Giardia lamblia* infestation. The Enterotest is a simple and safe way of sampling duodenojejunal contents. We have compared this method with examination of stools and the aspirate from the Crosby capsule, obtained at jejunal biopsy.

74. All are vapour phase disinfectants, EXCEPT

- A. Ethylene oxide
- B. Thiomersal
- C. Formaldehyde gas
- D. Betapropiolactone (BPL)

Ans B

Vapor-phase Disinfectants

Propiolactone is used for vaccines, tissue grafts, surgical instruments, and enzymes, as a sterilant of blood plasma, water, milk, and nutrient broth, and as a vapor-phase disinfectant in enclosed spaces. Acute (short-term) inhalation exposure to beta-propiolactone causes severe irritation of the eyes, nose, throat, and respiratory tract in humans.

Alkylating agents such as formaldehyde, ethylene oxide, and propylene oxide are broad-spectrum biocides active against bacteria, viruses, and fungi, including spores.

Ethylene and propylene oxides are highly reactive gaseous fumigants used for sterilizing animal feed, human food, surgical equipment that cannot be autoclaved (eg, endoscopes, gloves, syringes, catheters, tubing, implantable devices), laboratory equipment, etc. Both are noncorrosive. However, ethylene oxide has better penetrability than propylene oxide and, therefore, is more commonly used. For this application, ethylene oxide is mixed with chlorofluorocarbons or carbon dioxide and sold in gas cylinders.

Other gaseous disinfectants (eg, formaldehyde, sulfur dioxide, methylbromide) have been used infrequently because of their toxic or corrosive properties.

Thiomersal (INN), commonly known in the US as thimerosal, is an organomercury compound. This compound is a well established antiseptic and antifungal agent.

75. Mice are used for isolation of all of the following EXCEPT

A. Rabies virus

B. Arbovirus

C. Coxsackie virus

D. Echo viruses

Ans D

Coxsackie A - some will grow in Rhabdomyosarcoma (Rd) cell lines. Otherwise will require inoculation into newborn mice

Virus isolation - intracerebral inoculation of laboratory mice is the method of choice. Rabies virus will propagate in a variety of cell cultures including human diploid cells but have not replaced the mouse system

Arboviruses

1. Virus isolation - the arbovirus is usually present in the blood during the acute febrile phase of the illness. To reduce the effect of serum inhibitors, isolation attempts should be made not only with undiluted serum, but dilutions of 1:5 or 1:10 or higher. Virus isolation is not usually attempted from tissue biopsies with the exception of brain tissue from patients with encephalitis. 3 systems are available for virus isolation;-

a. intracerebral inoculation of newborn mice

b. tissue culture eg. LLC-MK2, Vero, arthropod cell lines

intrathoracic inoculation of arthropods

76. Warthin Finkedly cells are seen in

- A. Warthin Tumor
- B. Wolman disease
- C. Whooping cough
- D. Measles

Ans D

A Warthin–Finkeldey cell is a type of giant multinucleate cell found in various organs in infections with measles

77. Philadelphia chromosome is the first tumor specific chromosomal change discovered by

- A Nowell and Hungerford
- B Watson and Crick
- C Alfred Knudsen
- D Maurice Wilkins

Ans A

The discovery of the Philadelphia chromosome as a hallmark of chronic myelogenous leukemia in 1960 by Peter Nowell provided evidence for a genetic link to cancer.

In 1960, Peter C. Nowell then a junior faculty member at the University of Pennsylvania School of Medicine, together with a graduate student, David Hungerford, described an unusual small chromosome present in leukocytes from patients with chronic myelogenous leukemia (CML)

78. Parathyroid hormone — related protein (PTHrP) is a polypeptide normally produced by

- A. parafollicular cells of thyroid -
- B. chief cells of parathyroid
- C. pituicytes
- D. squamous epithelial cells of the skin

Ans D

Parathyroid hormone-related protein (or PTHrP) is a protein member of the parathyroid hormone family. It is occasionally secreted by cancer cells (breast cancer, certain types of lung cancer including squamous cell carcinoma). However, it also has normal functions.

Human keratinocytes in primary culture were the first normal cells shown to secrete PTHrP (5). Immunohistochemical studies have localized PTHrP from the basal layer through the granular layer of the epidermis, in skin appendages, and in fetal rat skin as early as 14 days of gestation (4, 6). PTHrP gene expression is regulated in cultured keratinocytes by serum, by 1,25-dihydroxyvitamin D, and by an as-yet-unidentified dermal fibroblast-derived factor (7,8). The classical PTH/PTHrP receptor is present on dermal fibroblasts (9), but there is also evidence for specific PTHrP receptors on keratinocytes (10). Thus, PTHrP is produced in skin; its production is regulated, and its effects in skin may be mediated by autocrine or paracrine pathways, or both.

79. TRUE statement about metastases of malignant tumors of brain is

- A. drop metastases can occur in the spinal cord
- B. lymph node metastases in patients who have had brain surgery
- C. metastases through man made shunts
- D. All of the above

Ans D

intradural metastases

Metastasis to the dura may arise from a variety of primary malignancies, most commonly breast cancer, lung cancer, and melanoma. Tumors of the central nervous system (glioblastoma multiforme and posterior fossa ependymomas) may produce "drop metastases." These metastatic lesions usually appear as small, round, multifocal lesions that enhance and stud the surface of the cord. Lymphomatous metastases, on the other hand, tend to produce a more diffuse pial enhancement, as may breast and prostate metastases. In a patient with metastatic disease, these radiographic appearances generally indicate extramedullary-intradural disease. It should be noted, however, that multiple cerebral spinal fluid analyses are far more sensitive than imaging studies in the determination of this process.

80. Which of the following structures in the lung is likely to be affected the most in a patient who smoked a pack and half of cigarettes per day for 30 years and developed centrilobular emphysema ?

- A .Alveolar sac
- B . Terminal bronchiole
- C . Alveolar duct
- D . Respiratory bronchiole

Ans D

there are two major types of emphysema: centrilobular (centriacinar) and panlobular (panacinar). The former involves primarily the upper lobes while the latter involves all lung fields, particularly the bases.

Centrilobular emphysema occurs with loss of the respiratory bronchioles in the proximal portion of the acinus, with sparing of distal alveoli. This pattern is most typical for smokers.

Panacinar emphysema occurs with loss of all portions of the acinus from the respiratory bronchiole to the alveoli. This pattern is typical for alpha-1-antitrypsin deficiency.

81. Corbus disease is

- A. Dense fibrosis of Dermis and Buck fascia of penile corpus
- B. Balanitis circumscripta plasmacellularis
- C. Gangrenous balanitis
- D. Erythroplasia of Queyrat

Ans C

Gangrenous balanitis

Rapidly progressing necrotizing inflammatory disease due to anaerobes in glans penis

- Also called Corbus's disease
- Caused by anaerobic microorganisms; associated with poor hygiene
- Rapidly progressive necrotizing inflammatory process due to anaerobes in glans penis

- May cause total necrosis of glans; although foreskin may be secondarily involved in advanced cases, the site of the lesion is the glans, sparing the penile fascia, dartos and foreskin (in contrast to Fournier's gangrene)
- Similar changes in distal penis are caused by penile necrosis in diabetic patients and by penile prosthesis

82. In which following subtypes of Hodgkin lymphoma, the diagnostic R-S giant cells are usually negative for CD 15 and CD 30?

- A. Mixed cellularity
- B. Lymphocyte rich
- C. Lymphocyte depletion
- D. Lymphocyte predominance

Ans d

first four types listed in the table below are "classical HL" and have Reed-Sternberg cells that immunohistochemically are positive for CD15 and CD30 but negative for CD45.

Lymphocyte predominance HL has RS cells that are CD20 positive but CD15 and CD30 negative, more like B cells

83. Ames test in Neoplasia is a test for

- A. Teratogenicity
- B. Mutagenicity
- C. Carcinogenicity
- D. Clonality

Ans B

The Ames test is a biological assay to assess the mutagenic potential of chemical compounds.[1] A positive test indicates that the chemical is mutagenic and therefore may act as a carcinogen, since cancer is often linked to mutation. However, a number of false-positives and false-negatives are known.[2] The test serves as a quick and convenient assay to estimate the carcinogenic potential of a compound since standard carcinogen assays on rodents are time-consuming (taking two to three years to complete) and expensive

84. Macro-orchidism in post pubertal males is a feature of

- A. Fragile X-syndrome
- B. Klinefelter syndrome
- C. Tuner syndrome
- D. Down syndrome

Ans A

Macroorchidism is a genetic disorder found in males where a subject has abnormally large testes. The condition is commonly inherited in connection with fragile X syndrome, which is also the second most common genetic cause of mental disabilities. This contrasts with Microorchidism, which is the condition of abnormally small testes.

85. One of the following is a germ cell tumor of ovary

- A. Granulosa cell tumor
- B. Mucinous cystadenoma
- C. Brenner tumour
- D. Benign cystic teratoma

Germ cell tumors are broadly divided in two classes:

The germinomatous or seminomatous germ cell tumors (GGCT, SGCT) include only germinoma and its synonyms dysgerminoma and seminoma.

The nongerminomatous or nonseminomatous germ cell tumors (NGGCT, NSGCT) include all other germ cell tumors, pure and mixed

Ans d.

86. Danbury tremors are seen in cases of chronic poisoning due to

- A. bismuth
- B. lead

C. alcohol

D. mercury

Ans D

Chronic mercury poisoning: Features

" TABLE "

- Tremor (Intentional, coarse, affecting arms, hands, tongue and later legs, also called hatter's shake/glass blower's shake/danbury tremors)
- Acrodynia (Pink disease, characterised by pain, paraesthesia, pinkish discolouration of hands and feet)
- Blue-Black line on gums
- Lentis (Mercuria lentis, deposition of brown pigment on anterior lens capsule without affecting visual acuity)

Erethism (Psychological disturbance characterised by shyness, timidity, loss of memory, depression, insomnia)

87. Gila monster is a type of

A. Lizard

B. Snake

C. Toad

D. Scorpion.

88. Minimum punishment in cases of gang rape is

A. 6 years

B. 8 years

C. 10 years

D. 12 years

Ans C

The minimum punishment in a gang rape case is ten years of imprisonment that can go up to life imprisonment

89. Paltauf's haemorrhages are seen in

- A. hanging
- B. strangulation
- C. drowning
- D. CO poisoning

Ans C

90. Masochism is a form of sexual perversion

- A. in which sexual gratification is sought by being beaten, tormented or humiliated by one's sexual partner
- B. in which a male gets sexual excitement leading to orgasm from part of the body of a woman or some article belonging to her
- C. in which infliction of pain, torture and humiliation to the partner, acts as sexual stimulant
- D. in which there is a desire to wear clothes of the opposite sex

Ans A

the terms sadism and masochism describe a personality type characterized by the individual deriving pleasure and gratification from either inflicting or receiving physical pain and/or humiliation, respectively. In some cases the pleasure and gratification may be sexual but in others sexual pleasure is not experienced, and it may involve deriving the pleasure from masochistic or degenerate behaviour towards the opposite gender or same gender as self. Some individuals appear to be exclusively degenerate and others exclusively masochistic in deriving their pleasure, but many alternately derive pleasure from degenerate and masochistic thoughts and experiences involving themselves and other

91. A sequence of activities designed to implement policies and accomplish objectives is called

- A. schedule
- B. programme
- C. planning cycle
- D. scheme

Ans B

PLANNING CYCLE

Planning is the broad foundation on which much of management is based. Planning may be defined as a process of analysing a system, or defining a problem, assessing the extent to which the problem exists as a need, formulating goals and objectives to alleviate or ameliorate those identified needs, examining and choosing from among alternative intervention strategies, initiating the necessary action for its implementation and monitoring the system to ensure proper implementation of the plan and evaluating the results of intervention in the light of stated objectives. Planning thus involves a succession of steps

A “programme” is a sequence of activities designed to implement policies and accomplish objectives. A programme gives a step-by-step approach to guide the action necessary to reach a predetermined goal. Programmes must be closely integrated with objectives.

A “schedule” is a time sequence for the work to be done.

“Procedures” are a set of rules for carrying out work which, when observed by all, help to ensure the maximum use of the resources and efforts.

“Policies” are the guiding principles stated as an expectation, not as a commandment.

92. Which of the following is the most commonly used measure of variation ?

- A. Standard error
- B. Standard deviation
- C. Range
- D. Mean or average deviation

Ans B

Standard Error

If we take a random sample (t) from the population, and similar samples over and over again we will find that every sample will have a different mean (\bar{t}). If we make a frequency distribution of all the sample means drawn from the same population, we will find that the distribution of the mean is nearly a normal distribution and the mean of the sample means practically the same as the population mean (μ). This is a very important observation that the sample means are distributed normally about the population mean (μ). The standard deviation of the means is a measure of the sample error and is given by the formula σ/\sqrt{n} which is called the standard error or the standard error of the mean. Since the distribution of the means follows the pattern of a normal distribution, it is not difficult to visualize that 95 per cent of the sample means will lie within limits of two standard error [$\mu \pm 2(\sigma/\sqrt{n})$] on either side of the true or population mean. Therefore standard error (S.E.) is a measure which enables us to judge whether the mean of a given sample is within the set confidence limits or not.

The Standard Deviation

There are several measures of variation (or “dispersion” as it is technically called) of which the following are widely known:

(a) The Range

(b) The Mean or Average Deviation

(c) The Standard Deviation

The standard deviation is the most frequently used measure of deviation simple terms, it is defined as “Root-Means-Square-Deviation”.

93. Which of the following micro-organisms is the indicator of bacterial quality and contamination of water ?

A. E. Coli

B. Staphylococci

C. V. Cholerae

D. Salmonella Typhi

Ans A

The primary bacterial indicator recommended for this purpose is the coliform group of organisms as a whole. Supplementary indicator organisms, such as faecal streptococci and sulphite-reducing clostridia, may sometimes be useful in determining the origin of faecal pollution as well as in assessing the efficiency of water treatment processes.

(1) Coliform organisms: The "coliform" organisms include all aerobic and facultative anaerobic, gram-negative, non-sporing, motile and non-motile rods capable of fermenting lactose at 35 to 37 deg. C in less than 48 hours. The coliform group includes both faecal and non-faecal organisms. Typical example of the faecal group is E. coli and of the non-faecal group, Klebsiella aerogens. From a practical point of view it is assumed that all coliforms are of faecal origin unless a non-faecal origin can be proved

(2) There are several reasons why coliform organisms are chosen as indicators of faecal pollution rather than the water-borne pathogens directly: (1) the coliform organisms are constantly present in great abundance in the human intestine. It is estimated that an average person excretes 200-400 billion of these organisms per day. These organisms are foreign to potable waters, and hence their presence in water is looked upon as evidence of faecal contamination, (2) they are easily detected by culture methods - as small as one bacteria in 100 ml of water, whereas the methods for detecting the pathogenic organisms are complicated and time-consuming, (3) they survive longer than the pathogens, which tend to die out more rapidly than coliform bacilli, (4) the coliform bacilli have greater resistance to the forces of natural purification than the water borne pathogens. If the coliform organisms are present in a water sample, the assumption is the probable presence of intestinal pathogens

(3)

94. Which one of the following is also known as Tiger Mosquito ?

A. Anopheles

B. Culex

C. Aedes

D. Mansonia

Ans C

Aedes mosquitoes are easily distinguished by white stripes on a black body. Because of the striped or banded character of their legs they are sometimes referred to as “tiger mosquitoes”. Important members of this group of mosquitoes are: Aedes aegypti, Aedes vittatus and Aedes albopictus. Aedes mosquitoes are most abundant during rainy season.

95. Biological vector for Q fever is

- A. flea
- B. louse
- C. tick
- D. chigger

Ans C

Q fever

AGENT: The causative agent is Coxiella burnetii. It is found in ticks which act as vectors as well as reservoir, (b) ANIMAL HOSTS: Cattle, sheep, goats, ticks and some wild animals are natural reservoirs. Infected animals shed the disease agent in the faeces and urine and heavily contaminate the soil. The placenta of infected cows and sheep contains the infectious agent which may create infectious aerosols during parturition. Camels, horses, dogs and many other domestic animals have been shown to be capable of acting as maintenance hosts

96. Which of the following is the best study design, if the disease is a rare disease ?

- A. Cross-sectional study
- B. Case-control study
- C. Cohort Study
- D. Randomized controlled trial

Ans B

97. The full form ICDS is

- A. Intensive Child Development Scheme

B. Information Communication Development and Service

C. Integrated Child Development Services

D. Integrated Child and Adolescent Development Services

Ans C

ICDS (Integrated Child Development Services) projects which are functioning in about 5320 blocks all over the country. The principal worker in ICDS projects is the Anganwadi worker. In one ICDS "project", there are about 100 Anganwadi workers, who are providing a package of basic health services (e.g., supplementary nutrition, immunization, health check-up, referral, nutrition and health education, and non-formal education services) to mothers and children. Their activities are guided by the Child Development Project Officer (CDPO).

98. Social Security considers three essential elements, the security of employment, security of income and the third one is

A. security of right to express oneself

B. security of right to work

C. security of right to worship

D. none of the above

Ans D

Social security is defined as that "security that society furnishes through appropriate organization, against certain risks to which its members are exposed". The risks which social security covers in most countries are sickness, invalidity, maternity, old age and death. Social security also includes social insurance and social assistance.

Social security for Industrial workers

The social security measures for industrial workers in India are contained in the following legislations:

(1) Workmen's Compensation Act, 1923

(2) Central Maternity Benefit Act, 1961

(3) Employees State Insurance Act, 1948

(4) The Family Pension Scheme, 1971

Some of these Acts have been described elsewhere in the text.

Social security for civil servants

The employees of the Central and State Government have pension, gratuity, provident fund and family pension schemes.

The Central Government Health Scheme in Delhi provides comprehensive medical care to all categories of Central Government Employees. The scheme has been extended to other cities also.

Social security for general Public

The risks of death, accident, and fire are covered by the Insurance schemes. The Life Insurance Corporation of India has many schemes for the general public. There are also public provident fund schemes

99. The instrument used to measure very low air movements in closed rooms is

A. Dry bulb thermometer

B. Wet bulb thermometer

C. Globe thermometer

D. Kata thermometer

Ans d

COOLING POWER: Still later, air temperature, humidity and air movement were considered together and expressed as "cooling power" of the air. An instrument was devised by Hill called the Kata Thermometer to measure the cooling power. A dry Kata reading of 6 and above, and a wet Kata reading of 20 and above, were regarded as indices of thermal comfort. Further researches have shown that the Kata cooling powers are also not reliable indices of comfort conditions

The Kata thermometer is now largely used as an anemometer for recording low air velocities rather than the cooling power of the air.

CORRECTED EFFECTIVE TEMPERATURE: This Index is an improvement over the Effective Temperature Index. Instead of the dry bulb temperature, the reading of the Globe Thermometer is used to allow for radiant heat. That is, the C.E.T. scales deal with all the four factors namely, air temperature, velocity, humidity and mean radiant heat. Whenever a source of radiation is present, it is preferable to take C.E.T. The C.E.T. may be readily obtained from prepared nomograms by reference to the globe thermometer temperature, the wet bulb temperature and air speed. At present, effective temperature and C.E.T. scales are widely used as indices of thermal comfort

100. Principles of Health Education include all EXCEPT

- A. Participation
- B. Motivation
- C. Punishment
- D. Reinforcements

Ans C

PRINCIPLES OF HEALTH EDUCATION

- Reinforcement: Few people can learn all that is new in a single'period. Repetition at intervals is necessary. If there is no reinforcement, there is every possibility of the individual going back to the pre - awareness stage. If the message is repeated in different ways, people are more likely to remember it.

- Participation: Participation is a key word in health education. It is based on the psychological principle of active learning. Health education should aim at encouraging people to work actively with health workers and others in identifying their own health problems and also in developing solutions and plans to work them out. Participation of family members in patient care will create opportunity for more effective, practically based health education. A high degree of participation tends to create a sense of involvement, personal acceptance and decision -making. It provides maximum feedback. The Alma - Ata Declaration states: "The people have a right and duty to participate individually and collectively in the planning and implementation of their health card' (18). If community participation is not an integral part, health programmes are unlikely to succeed (19).

- Motivation: In every person, there ' a fundamental desire to learn. Awakening this desire is called motivation. There are two types of motives - primary and secondary. Primary motives (e.g. sex, hunger, survival) are driving forces initiating people into action; these motives are inborn desires. Secondary

motives are based on desires created by outside forces or incentives. Some of the secondary motives are praise, love, rivalry, rewards and punishment, and recognition. In health education, motivation is an important factor; that is, the need for incentives is a first step in learning to change. The incentives may be positive (the carrot) or negative (the stick). To tell a lady, faced with the problem of overweight, to reduce her weight because she might develop cardiovascular disease or it might reduce her life span, may have little effect; but to tell her that by reducing her weight she might look more charming and beautiful, she might accept health advice. When a father promises his child a reward for getting up early everyday, he is motivating the child to inculcate a good habit. In health education, we make use of motivation to change behaviour. Motivation is contagious; one motivated person may spread motivation throughout a group. For example, men who have already had vasectomies are among the best advertisements for male sterilization

131. All are primary causes of nephrotic syndrome in infants younger than one year, EXCEPT

- A. Congenital nephrotic syndrome
- B. Minimal change disease
- C. Membranous nephropathy.
- D. Systemic lupus erythematosus

Ans d

. Congenital nephrotic syndrome is defined as nephrotic syndrome manifesting at birth or within the first 3 mo of life. Congenital nephrotic syndrome may be classified as primary or as secondary to a number of etiologies such as in-utero infections (cytomegalovirus, toxoplasmosis, syphilis, hepatitis B and C, HIV), infantile systemic lupus erythematosus, or mercury exposure.

132. Regarding Reye syndrome, all of the following statements are TRUE, EXCEPT

- A. The white liver disease and encephalopathy with fatty degeneration of the viscera are its other nomenclatures
- B. Sporadic Reye syndrome can occur in the context of varicella or influenza B virus infection
- C. The condition is usually observed in children below 3 years of age

D. Mitochondrial dysfunction of fatty acid oxidation is significant

Ans c

Reye syndrome is most often seen in children ages 4 - 12. Most cases that occur with chickenpox are in children ages 5 - 9

Reye syndrome typically occurs after a viral illness, particularly an upper respiratory tract infection, influenza, varicella, or gastroenteritis, and is associated with the use of aspirin during the illness. A dramatic decrease in the use of aspirin among children, in combination with the identification of medication reactions, toxins, and inborn errors of metabolism (IEMs) that present with Reye syndrome-like manifestations, have made the diagnosis of Reye syndrome exceedingly rare

The pathogenesis of Reye syndrome, while not precisely elucidated, appears to involve mitochondrial injury resulting in dysfunction that inhibits oxidative phosphorylation and fatty-acid beta-oxidation in a virus-infected, sensitized host. The host has usually been exposed to mitochondrial toxins, most commonly salicylates (>80% of cases).

133. Hemorrhagic cystitis is a dreaded complication associated with use of

- A. Clobazam
- B. Cyclosporin
- C. Cycloserine
- D. Cyclophosphamide

Ans d

134. An 18 month old boy presents with prominent eyeballs and periorbital ecchymosis and an enlarging swelling on the left upper abdomen. He is markedly pale. A large left sided mass distinct from the spleen was palpable. The most likely diagnosis is

- A. Wilm's tumor
- B. Osteopetrosis

C. Neuroblastoma

D. Gauchers Disease

Ans C

Wilms' tumor occurs in children up to about age 8. About 75 percent of cases occur before age 5, and the average age of children with Wilms' tumor is 2 - 3 years

Neuroblastoma is typically diagnosed in babies or young children. The average age for neuroblastoma is about 18 months of age

The characteristic "raccoon eyes" appearance associated with neuroblastoma and metastasis to the skull is probably related to obstruction of the palpebral vessels (branches of the ophthalmic and facial vessels) by tumor tissue in and around the orbits

135. One of the following intrauterine infections has characteristically the following triad of chorioretinitis, microcephaly and intracerebral calcifications.

A. Cytomegalovirus

B. Toxoplasmosis ,

C. Rubella

D. Herpes simplex

Ans A

In congenital CMV infections, over 90% of the newborns are asymptomatic at the time of birth but the consequences of in utero CMV infection such as hearing loss will show up as the infant gets older. The most morphological abnormality is microcephaly and periventricular calcification. Death that occurs shortly after birth tends to be resulted from hepatic failure. CMV infections due to primary infections produce more severe damage than those resulted from reactivation of latent infection.

136. A 5 year old girl has 3 months history of joint pains and morning stiffness. Knees and ankles are involved with mild swelling and tenderness. Slit lamp examination reveals IRIDOCYCLITIS. The diagnosis is

A. Juvenile Rheumatoid Arthritis (JRA)

- B. Systemic Lupus Erythematosus (SLE)
- C. Henoch — Schonlein Purpura (HSP)
- D. Rheumatic Arthritis

Ans A

137. A 7 year old/ boy has short stature, large skull, prominent forehead, saddle shaped nose, exaggerated lordosis and normal intelligence and development, the diagnosis is

- A. Noonan syndrome
- B. Hypopituitarism
- C. Isolated Growth Hormone V Deficiency
- D. Achondroplasia

Ans D

138. Immediately after birth, the preventable causes of mental retardation include all of the following, EXCEPT

- A. Hypothyroidism
- B. Phenylketonuria.
- C. Kernicterus
- D. Hurlers disease

Ans c

139. Which of the following is associated with large anterior fontanel ?

- A. Achondroplasia

- B. Apert syndrome
- C. Cleidocranial Dysostosis
- D. All of the above

Ans D

Apert's syndrome (craniosynostosis, proptosis, hypertension)

140. An aggressive looking, thin and tall adolescent boy aged 15 years is noted to have prominent long limbs and small testes. What is the most relevant investigation ?

- A. Hormonal assays
- B. Chromosomal analysis
- C. Skeletal survey
- D. Ultrasound evaluation

Ans b

141. Relative humidity of alveolar air is

- A. 50%
- B. 30%
- C. 75%
- D. 100%

Ans D

In the nose, warmed air reaches 32°C with humidification of 80 to 90%. At the carina, temperature is elevated to 37°C with humidity of 100%. The same air breathed through the mouth reaches temperatures of 22°C with relative humidity of 60 %. Heating and humidification occur through the mucosa of the tracheobronchial tree. Alveolar air has a temperature of 37°C and the humidity is 100%. At this point the air contains 44 mg water/litre gas. In normal climatological conditions the breathed air

contains less than 44 mg water/litre gas. Air at room temperature of 22°C with 50% humidity contains 10 mg water/litre of gas.

142. Emergence reactions is found with

- A. propofol
- B. sevoflurane
- C. ketamine -
- D. thiopental

Ans C

143. The following are signs and symptoms of local anaesthetic toxicity EXCEPT

- A. Perioral tingling
- B. Convulsions
- C. Arrhythmia
- D. Diarrhoea

Ans D

Toxicity

Local anaesthetic toxicity starts with perioral tingling and paraesthesiae, progressing to drowsiness, seizures, coma and cardiorespiratory arrest

Localized

A cause of local toxicity is allergic reaction to para-aminobenzoic acid (PABA). These reactions range from urticaria to anaphylaxis.

PABA is a metabolic product of the degradation of Ester class of local anesthetics, such as procaine (Novocaine), benzocaine, and, to a lesser degree, amide class anesthetics such as lidocaine, and prilocaine. It is also a metabolic by-product of pramoxine methylparaben, a preservative in multi-dose vials of lidocaine. When allergic response to injected anesthetics does occur, it is most likely due to the ester

class local anesthetics. The amide class of local anesthetics is far less likely to produce allergic reaction.[2][3]

Use of topical anesthetics for relief of eye pain can result in severe corneal damage. See abuse of anesthetics for ocular pain relief page.

[edit]Systemic

Systemic toxicity of local anesthetics can be described by the direct effects on the immune system, blood (hematologic), central nervous system, and cardiovascular system.

Immune system

As noted previously, allergic reaction to metabolic break-down of anesthetic agents and preservatives (PABA) can cause anaphylaxis.

Hematologic

Methemoglobinemia is a process where iron in hemoglobin is altered, reducing its oxygen-carrying capability, which produces cyanosis and symptoms of hypoxia. Benzocaine, lidocaine, and prilocaine all produce this effect, especially benzocaine.[2]

Central Nervous System

Systemic toxic reactions to locally administered anesthetics are progressive as the level of the anesthetic agent in the blood rises. Initial symptoms suggest some form of central nervous system excitation such as a ringing in the ears (tinnitus), a metallic taste in the mouth, or tingling or numbness of the mouth. Advanced symptoms include motor twitching in the periphery followed by grand mal seizures, coma, and eventually respiratory arrest.[4]

Cardiovascular

Cardiovascular effects are primarily those of direct myocardial depression and bradycardia, which may lead to cardiovascular collapse.[1] At extremely high levels, cardiac arrhythmia or hypotension and cardiovascular collapse occur

144. One bar equals

A. 15 psi

B. 100 cm water

C. 30 psi

D. 100 mm Hg

Ans A

Bar is a measure of pressure. 1bar = approx 14.5 psi, this equates to the average atmospheric pressure at sea level.

145. One of the following drugs is used commonly in the prophylaxis of tuberculous infection

A. Rifampicin

B. Isoniazid

C. Ciprofloxacin

D. Pyrazinamide

Ans b

146. In tuberculosis, for sputum to be positive for AFB, the number of the bacilli should be at least ----- organisms per ml of sputum.

A. 100

B. 1,000

C. 10,000

D. 100,000

Ans C

It has been recommended that a minimum of 100 high-power fields of microscope should be examined for maximum yield^{5,6}. A minimum of 10 acid fast bacilli (AFB) per 100 fields is taken as the threshold for considering a result as positive,

Sputum microscopy is likely to be positive when there are at least 10,000 organisms per milliliter of sputum

147. Most common cause of hemothorax is

- A. trauma
- B. iatrogenic injury
- C. pleural malignancy
- D. postoperative haemorrhage

Ans A

148. Hypercalcemia in sarcoidosis is the result of

- A. decreased renal excretion of calcium
- B. increased serum parathyroid hormone production
- C. increased production of 1,25-dihydroxyvitamin D
- D. increased production of /25-dihydroxyvitamin D

Ans C

Hypercalcemia in sarcoidosis is the result of elevated levels of 1-25 hydroxyvitamin D that comes from the conversion of 25 hydroxyvit- amin D by these granuloma

149. In the pathogenesis of sycosis barbae the most commonly involved organism is

- A. Bacteria
- B. Fungi
- C. Ingrown hair
- D. Virus

Ans A

Sycosis vulgaris (also known as "Barber's itch," and "Sycosis barbae") is a cutaneous condition characterized by a chronic infection of the chin or bearded region.[1]:252[2] The irritation is caused by a deep infection of hair follicles, often by species of Staphylococcus or Propionibacterium bacteria. [3] Asymptomatic or painful and tender erythematous papules and pustules may form around coarse hairs in the beard (sycosis barbae) or the back of the neck (sycosis nuchae)

150. On Wood's lamp examination of tinea versicolor fluorescence seen is

A. golden yellow

B. green

C. coral red

D. pink

Ans A

A golden yellow fluorescence shows Tinea versicolor infection, a bright yellowish green color indicates Trichophyton schoenleini infection, a Pink or Pinkish orange fluorescence shows infection by Porphyria Cutanea Tarda, a pale green color indicates Trichophyton Schoenleini infection, an aqua green or blue fluorescence indicates infection by the bacteria Pseudomonas aeruginosa, a bright yellowish green fluorescence shows infection by Microsporum canis, a bluish white color indicates leprosy, a pale white color indicates hypo pigmentation, a purplish brown fluorescence shows hyper pigmentation, a bright white color shows albinism, presence of ash leaf shaped patches shows tuberous sclerosis

151. False statement regarding pompholyx is (APPG – 2013)

+1

A type of exogenous eczema

B sago grain (deep seated) vesicles

C Pruritic

D Commonly involves palms and soles

Ans C, Dyshidrosis (also known as "acute vesiculobullous hand eczema," "cheiropompholyx," [2] "dyshidrotic eczema," [2] "pompholyx," [2] and "podopompholyx" [2]) is a skin condition that is characterized by small blisters on the hands or feet. It is an acute, chronic, or recurrent dermatosis of the fingers, palms, and soles, characterized by a sudden onset of many deep-seated pruritic, clear vesicles; later, scaling, fissures and lichenification occur. Recurrence is common and for many can be chronic.

. However, many cases of eczema are diagnosed as garden-variety atopic eczema without further investigation, so it is possible that this figure is misleading.

This condition is not contagious to others, but the compromised integument can increase susceptibility to infection, and the accompanying itching can be a source of psychological duress.

The name comes from the word "dyshidrotic," meaning "bad sweating," which was once believed to be the cause, but this association is unproven; there are many cases present that have no history of excessive sweating. There are many different factors that may trigger the outbreak of dyshidrosis such as allergens, physical and/or mental stress, or seasonal changes.

Small blisters with the following characteristics:

- Blisters are very small (3 mm or less in diameter) They appear on the tips and sides of the fingers, toes, palms, and soles.
- Blisters are opaque and deep-seated; they are either flush with the skin or slightly elevated and do not break easily. Eventually, small blisters come together and form large blisters.
- Blisters may itch, cause pain, or produce no symptoms at all. They worsen after contact with soap, water, or irritating substances.
- Scratching blisters breaks them, releasing the fluid inside, causing the skin to crust and eventually crack. This cracking is painful as well as unsightly and often takes weeks, or even months to heal. The skin is dry and scaly during this period.
- Fluid from the blisters is serum that accumulates between the irritated skin cells. It is not sweat as was previously thought.
- In some cases, as the blistering takes place in the palms or finger, lymph node swelling may accompany the outbreak. This is characterised by tingling feeling in the forearm and bumps present in the arm pits.

Nails on affected fingers, or toes, may take on a pitted appearance.

The content of the deep-seated, sago-grain-like blisters is pure serum and not sweat

152. Zidovudine, an antiretroviral agent is

A Nucleoside reverse transcriptase inhibitor

B Non nucleoside reverse transcriptase inhibitor

C Nucleotide analogue

D Protease inhibitor

Ans A, Zidovudine (INN) or azidothymidine (AZT) (also called ZDV) is a nucleoside analog reverse-transcriptase inhibitor (NRTI)

153. Acetic acid test is used to detect the subclinical genital infection by (APPG – 2013)

A. Human papilloma virus

B. Herpes simplex virus

C. Donovanosis

D. Molluscum contagiosum

Ans A, The application of 3%–5% acetic acid, which causes skin color to turn white, has been used by some providers to detect HPV-infected genital mucosa. However, acetic acid application is not a specific test for HPV infection. Therefore, the routine use of this procedure for screening to detect mucosal changes attributed to HPV infection is not recommended.

154. Groove sign of Greenblat due to femoral and inguinal lymph node enlargement is a feature of

- A. chancroid
- B. primary chancre
- C. donovanosis
- D. lymphogranuloma venereum

Ans D

The "sign of groove" was first described by Greenblatt in 1953 as a characteristic sign in LGV to denote the sausage shaped swellings of the inguinal lymph NODE

155. Confabulation is seen in

- A. Capgras syndrome
- B. Othello syndrome
- C. Fregoli syndrome
- D. Korsakoff's syndrome

Ans d

156. Thought broadcasting is

- A. Thoughts of being persecuted
- B. Thoughts being projected into the environment
- C. Thoughts being removed from one's mind
- D. Thoughts being implanted in one's mind

Ans B

During thought broadcasting people describe their thoughts being broadcast, or available, to others. This is a passive process and not something the person can control. It is different from people being able to read their thoughts in that when thoughts are being broadcast they are available to anybody. To illustrate this, thought broadcast could be compared to radio transmitting, as opposed to telepathy which is more like a telephone connection. Note that there is no implication that their thoughts are being heard.

Thought broadcasting is a positive (affirmative) symptom of schizophrenia in the diagnostic process undertaken by mental health professionals.

Thought broadcasting has been suggested as one of the so-called "first rank symptoms" (Schneider's first-rank symptoms) believed to distinguish schizophrenia from other psychotic disorders.

157. The color 'red' (denoting increase in Doppler shift frequency) in color Doppler examination denotes

- A. arterial flow
- B. flow towards ultrasound probe
- C. venous flow
- D. no flow

Ans b

In color Doppler, a form of PW Doppler, a color code is used to depict flow toward (red) and away (blue) from the transducer; lighter and darker shades of red and blue, respectively, denote relatively faster and slower velocities.

158. Which component of radiographic contrast media provides most of the useful radio-opacity ?

- A. Only iodine
- B. Only sodium
- C. Diatrizoate
- D. Iodine and sodium

IODINE COMPOUNDS AS CONTRAST AGENTS

Almost all radiological examinations performed with injected contrast agents involve the administration of iodine-containing compounds.

The use of iodine compounds was initially related to low toxicity and excellent radio-opacity rather than physical considerations. However, it was also fortunate that iodine compounds possess physical properties which make them better contrast agents than compounds with higher atomic number.

159. Stereotactic radiosurgery is commonly used to treat

- A. Glioblastoma multiforme
- B. Retinoblastoma
- C. Arteriovenous malformations in brain
- D. Tumors of spinal cord

Ans A

Stereotactic radiosurgery is often used to treat these brain tumors:

- Acoustic neuroma
- Glioma/glioblastoma
- Metastatic brain tumors
- Meningioma
- Pituitary tumors

160. The radiation detecting system used in Gamma Camera is

- A. Geiger — Muller counter
- B. Scintillation detector,
- C. De nsitometer
- D. Solid state detector

Ans B

A gamma camera, also called a scintillation camera or Anger camera, is a device used to image gamma radiation emitting radioisotopes, a technique known as scintigraphy. The applications of scintigraphy include early drug development and nuclear medical imaging to view and analyse images of the human body or the distribution of medically injected, inhaled, or ingested radionuclides emitting gamma rays.

A gamma probe is a handheld device used with a Geiger-Muller tube or scintillation counter, for intraoperative use following interstitial injection of a radionuclide, to locate regional lymph nodes by their radioactivity.[1] It is used primarily for sentinel lymph node mapping and parathyroid surgery

161. Which of the following does NOT require bowel preparation before contrast study ?

- A. Colonic growth
- B. Colonic polyps
- C. Stricture of the colon
- D. Megacolon

Ans D

Contraindications: Hypersensitivity to any of the ingredients, congestive cardiac failure, gastric retention, gastrointestinal ulceration, toxic colitis, toxic megacolon, ileus, nausea and vomiting, acute surgical abdominal conditions such as acute appendicitis and gastrointestinal obstruction or perforation. In patients with severely reduced renal function, accumulation of magnesium in plasma may occur; another preparation should be used in such cases.

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162. Treatment for Carcinoid of appendix > 2 cm in size is.

- A. right hemicolectomy

B. ileocaecal resection

C. ileo-transverse bypass

D. appendectomy

Ans a

In patients with tumors less than 1 cm located in the appendix, appendectomy is the treatment of choice. More extensive surgery is indicated for tumors larger than 2 cm, lymphatic invasion, lymph node involvement, mesoappendix infiltration, positive resection margins, and cellular pleomorphism with a high mitotic index. For tumors larger than 2 cm, accepted treatment has been hemicolectomy; however, a survival advantage over simple appendectomy has not been demonstrated.[61] Given the relatively low malignant potential of appendiceal carcinoids, some have suggested simple appendectomy for tumors more than 2 cm diameter without affecting overall survival

163. The most common cause of Pancreatic Ascites is

A. pancreatic duct disruption

B. acute pancreatitis

C. chronic pancreatitis

D. mucoviscidosis

Ans C

Approximately 95% of cases of pancreatic ascites are associated with chronic pancreatitis. The leak manifests upstream of a stricture or stone, and the point of least resistance for the pancreatic juice to flow is into the belly cavity rather than the duodenum, where it belongs. There are several reported cases of posttraumatic pancreatic ascites, where the tail of the pancreas has been sheared off after a motor vehicle accident, bicycle handlebar injury, or football helmet injury. Ascites can occur as a result of knife or gun wounds. It can occasionally occur after surgery for splenectomy or left nephrectomy, where the tail of the pancreas is damaged and the duct leaks juice into the belly cavity.

164. Annular Pancreas is usually treated by

A. Duodeno duodenostomy -

- B. Division of pancreas
- C. Gastrojejunostomy
- D. Administration of pancreatic enzyme preparations

Ans A

The most common surgical procedure to treat an annular pancreas is called a duodenoduodenostomy

165. Pringle manoeuvre is used in the management of

- A. Splenic injuries
- B. Liver injuries
- C. Pancreatic injuries
- D. Duodenal injuries

Ans B

The Pringle manoeuvre is a surgical manoeuvre used in some abdominal operations. A large haemostat is used to clamp the hepatoduodenal ligament interrupting the flow of blood through the hepatic artery and the portal vein and thus helping to control bleeding from the liver.

Should bleeding though continue, it is likely that the inferior vena cava or the hepatic vein were also traumatised.[1] Also, if bleeding did continue, a variation in arterial blood flow may be present

166. The definitive treatment of a patient with Caroli's disease whose liver function is well preserved is

- A. segmental hepatectomy

B. biliary drainage

C. antibiotics

D. liver transplantation

Ans A

The treatment depends on clinical features and the location of the biliary abnormality. When the disease is localized to one hepatic lobe, hepatectomy relieves symptoms and appears to remove the risk of malignancy.[12] There is good evidence that malignancy complicates Caroli disease in approximately 7% of cases.[12]

Antibiotics are used to treat the inflammation of the bile duct, and ursodeoxycholic acid for hepatolithiasis.[7] Ursodiol is given to treat cholelithiasis. In diffuse cases of Caroli disease, treatment options include conservative or endoscopic therapy, internal biliary bypass procedures and liver transplantation in carefully selected cases.[12] Surgical resection has been used successfully in patients with monolobar disease.[7] An orthotopic liver transplant is another option, used only when antibiotics have no effect, in combination with recurring cholangitis. With a liver transplant, cholangiocarcinoma is usually avoided in the long run.[]

167. On rectal examination, in which of the following lesions the affected seminal vesicle is found to be nodular ?

A. Tuberculosis

B. Gonorrhoeal,

C. Syphilis

D. Lymphogranuloma venereum

Ans A

168. Retractable Testis is best treated by

A. Orchiopexy

- B. Orchiectomy.
- C. Human Chorionic Gonadotrophin
- D. Reassurance

Ans D

Treatment isn't necessary as long as the retractile testicles stay put inside the scrotum most of the time before the onset of puberty

169. Chordee is most often seen in

- A. Peyronie's disease
- B. Epispadias
- C. Hypospadias
- D. Meatal Stenosis

Ans C

Chordee is a condition in which the head of the penis curves downward or upward, at the junction of the head and shaft of the penis. The curvature is usually most obvious during erection, but resistance to straightening is often apparent in the flaccid state as well. In many cases but not all, chordee is associated with hypospadias. This is not the same condition as Peyronie's disease, which involves curvature of the shaft of the penis most commonly due to injury during adult life.

170. The most widely used investigation for Lower Limb Venous insufficiency is

- A. varicography
- B. venography
- C. doppler examination
- D. duplex ultrasound imaging

Ans D

Duplex ultrasonography is the study of choice for the evaluation of venous insufficiency syndromes. Color-flow duplex imaging uses the Doppler information to color code the 2-dimensional sonogram. On the image, red indicates flow in one direction (relative to the transducer), and blue indicates flow in the other direction.[16] On newer machines, the shade of the color may reflect the flow velocity (in the Doppler mode) or the flow volume (in the power Doppler mode).

When used to evaluate patterns of venous reflux, ultrasonography is both sensitive and specific. Ultrasonographic reflux mapping is essential for the evaluation of peripheral venous insufficiency syndrome

171. Myoglobinuria is most common in

- A. chemical burns
- B. electrical burns
- C. flame burns
- D. radiation burns

Ans B

High-voltage injuries often produce severe burns and blunt trauma. Patients are at high risk of myoglobinuria and renal failure. Burns are often ultimately much worse than they initially appear in the ED.

172. The most commonly used formula for Burns resuscitation is

- A. Muir and Barclay's formula
- B. Brooke's hospital formula
- C. Parkland formula

D. Lund and Browder's formula

Ans C

173. The commonest site of a peripheral aneurysm is

A. Femoral artery

B. Popliteal artery

C. Subclavian artery

D. Carotid artery

Ans B

True aneurysms of the popliteal artery are the most common peripheral arterial ANEURYSMS

174. Which of the following malignancies of the breast is often bilateral ?

A. Infiltrating Duct Carcinoma

B. Lobular Carcinoma

C. Inflammatory Carcinoma

D. Colloid Carcinoma

Ans B

175. Limb Compartment syndrome is best treated by

A. analgesics

B. anticoagulants

C. fasciotomy

D. muscle transposition.

Ans C

Acute compartment syndrome is a medical emergency requiring immediate surgical treatment, known as a fasciotomy

176. Gas Bloat syndrome is a complication of

A. Partial Gastrectomy

B. Nissen's funduplication

C. Dor funduplication

D. Toupet funduplication

Ans B

Nissen fundoplication is a surgical procedure to treat gastroesophageal reflux disease (GERD) and hiatus hernia. In GERD it is usually performed when medical therapy has failed, but with paraesophageal hiatus hernia, it is the first-line procedure.

Nissen fundoplication is generally considered to be safe and effective, with a mortality rate of less than 1%. Studies have shown that after 10 years, 89.5% of patients are still symptom-free.

Complications include "gas bloat syndrome", dysphagia (trouble swallowing), dumping syndrome, excessive scarring, vagus nerve injury, and rarely, achalasia.[5] The fundoplication can also come undone over time in about 5-10% of cases, leading to recurrence of symptoms. If the symptoms warrant a repeat surgery, the surgeon may use Marlex or another form of artificial mesh to strengthen the connection.[6] Postoperative irritable bowel syndrome, which lasts for roughly 2 weeks, is possible.

In "gas bloat syndrome", fundoplication can alter the mechanical ability of the stomach to eliminate swallowed air by belching, leading to an accumulation of gas in the stomach or small intestine. Data varies, but some degree of gas-bloat may occur in as many as 41% of Nissen patients; whereas the occurrence is less with patients undergoing partial anterior fundoplication.[7] Gas bloat syndrome is usually self-limiting within 2 to 4 weeks, but in some it may persist. The offending gas may also come from dietary sources (especially carbonated beverages), or involuntary swallowing of air (aerophagia). If postoperative gas-bloat syndrome does not resolve with time, dietary restrictions, and counselling regarding aerophagia, correction may be necessary, either by endoscopic balloon dilatation[citation needed] or repeat surgery to revise the Nissen fundoplication to a partial fundoplication.

Vomiting is often difficult or even impossible with a fundoplication. In some cases, the purpose of this operation is to correct excessive vomiting. However, when its purpose is to reduce gastric reflux, difficulty in vomiting may be an undesired outcome. Initially, vomiting is impossible; however, small amounts of vomit may be produced after the wrap settles over time, and in extreme cases such as alcohol poisoning or food poisoning, the patient may be able to vomit freely.

177. The commonest graft used for CABG is

- A. internal mammary artery,
- B. radial artery
- C. long saphenous vein
- D. short saphenous vein

Ans C

The saphenous vein in the leg is the most common vein used as a bypass graft

Long saphenous vein is the most common conduit utilized for surgical coronary revascularization

178. Giant cell reparative granuloma of Jaw is treated by

- A. Antibiotics
- B. wedge resection
- C. resection and bone grafting
- D. curettage

Ans D

the traditional treatment of GCRG is represented by surgical removal via an intra-oral approach and the extent of tissue removal ranges from a simple curettage to an en bloc resection. Curettage alone, or in combination with a periosteal bone resection is the treatment modality most often used. Curettage has also been supplemented with cryosurgery and peripheral ostectomy. The surgical defect usually heals by secondary intention.

179. The commonest cause for esophageal perforation is

- A. barotrauma
- B. foreign bodies
- C. Iatrogenic
- D. penetrating injury to the chest

Ans c

Most esophageal perforations are iatrogenic

180. Which of the following is a delayed absorbable synthetic suture material ?

- A. Chromic catgut
- B. Vicryl
- C. Silk .
- D. Nylon

Ans B

The delayed absorbable monofilament sutures such as polydioxanone (PDS®) and polyglyconate (Maxon®), used for abdominal wound closure have good tensile strength and low tissue reaction, but the knots are not as strong. Polydioxanone (PDS) is also good for contaminated fields because it has a low affinity for bacteria. It is good for general use, tissue approximation, biliary work, anastomoses, fascial closures, heart surgery, and orthopaedic

Vicryl

- Tensile strength

65% @ 14 days

40% @ 21 days

10% @ 35 days

- Absorption complete by 70 days

Polydioxone

8. Tensile strength

70% @ 14 days

50% @ 28 days

14% @ 56 days

9. Absorption complete by 180 days

181. The ischioanal fossa is at an increased risk for infection due to

A. absence of deep fascia

B. proximity to anus

C. poor blood supply

D. presence of fibro fatty tissue

Ans C

Both the Perianal and Ischioanal spaces are common site of abscesses. Poor blood supply and coarse lobulated fat predispose it for infection. The Ischioanal abscess may be the result of spread of infection from the nearby area - skin, lumen of bowel or perirectal tissue above the levator ani or through the blood or lymphatic. They can be excised fearlessly because of the poor vascularity of the fossa.

Abscesses in this region are - (a) Perianal abscess (b) Ischioanal abscess (c) Supra levator abscess

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182. "Thumb printing" on plain skiagram of abdomen is characteristic sign of

- A. Crohn's colitis
- B. Ischemic colitis
- C. Amoebic colitis
- D. Ulcerative colitis

Ans B

183. Which one of the following is TRUE regarding Warthin tumour ?

- A. It is the second most common benign tumor of parotid gland
- B. About 50% are bilateral
- C. It is a malignant tumor
- D. Occurs in young individuals

Ans A

Warthin's tumor primarily affects older individuals (age 60–70 years). There is a slight female predilection according to recent studies, but historically it has been associated with a strong male predilection

Warthin's tumor is the second most common benign parotid tumor.

184. All of the following patients presenting with abdominal pain and shock need immediate laparotomy, EXCEPT

- A. Ruptured ectopic pregnancy
- B. Haemorrhagic pancreatitis
- C. Rupture abdominal aortic aneurysm
- D. Ruptured liver hemangioma

Ans D

The classical indications for either surgery or minimally invasive therapy are the relief of symptoms due to the hemangioma or the treatment of the spontaneously ruptured hemangioma. The latter event is potentially life-threatening. However, emergent surgical resection of the ruptured hemangioma is associated with a high mortality rate.

Top priority in the patient with a ruptured hepatic hemangioma is hemodynamic stabilization. Some authors have recommended surgical ligation of the hepatic artery as a next step. Others have recommended arterial embolization instead. Once the patient is stabilized, formal surgical resection of the hepatic hemangioma can be performed.

185. Which one of the following statements about acute diverticulitis is INCORRECT?

- A. Sigmoid is the commonest site
- B. Peri-colic abscess can occur
- C. Fistulization is an immediate cause for emergency surgery
- D. Conservative treatment may be successful in severe attack

Ans D

With the aid of CT scanning, patients can be grouped into categories at presentation based upon their imaging findings. Hinchey et al⁴ devised a classification system encompassing four clinical stages of perforated diverticulitis, which was later modified. Kaiser et al retrospectively evaluated the management of the patient based on the modified Hinchey classification (stage 0 mild clinical diverticulitis, Ia confined pericolic inflammation, Ib confined pericolic abscess, II pelvic or distant intraabdominal abscess, III generalized purulent peritonitis, IV fecal peritonitis) at presentation based on clinical, CT, or operative findings. Patients who were in the stage 0 and Ia groups did very well with just antibiotics. Only ~6% of these patients required a semiurgent resection because of an inadequate response to conservative therapy. All patients in stages III and IV underwent an urgent surgical resection. The patients in stages Ib and II were managed with a combination of antibiotics, percutaneous image guided drainage, and surgery. The higher the patient's stage, the less likely they were to avoid resective surgery, both in the short and long term.⁵ Patients with stage III and IV disease should be

managed with surgery; patients with stage I or II disease are generally candidates for nonoperative management

Fistulas are another recognized complication from diverticulitis. Both colo-vaginal and colo-vesicle fistulas can occur. The primary treatment for both of these situations is surgical. In a poor-risk patient, nonoperative therapy may be appropriate. Some patients may develop a small bowel obstruction from sigmoid diverticulitis due to a loop of small bowel being involved in the inflammatory process. This may improve with time as the colonic inflammation improves.

186. Lower esophageal sphincter is relaxed by all EXCEPT

- A. Theophylline
- B. Caffeine
- C. Prostaglandin F₂
- D. Dopamine

Ans C

187. Which one of the following type of cutaneous melanoma carries the best prognosis ?

- A. Superficial Spreading Melanoma . (SSM)
- B. Nodular Melanoma (NM)
- C. Lentigo Maligna Melanoma (LMM)
- D. Acral Lentigenous Melanoma (ALM)

Ans C

188. Fournier's gangrene is characterized by all EXCEPT

- A. Sudden appearance of scrotal inflammation
- B. Known to follow minor injuries or procedures in the perineal areas

C. Obvious cause is evident

D. Haemolytic streptococcus associated with other organisms causes a fulminating inflammation of subcutaneous tissues

Ans D

Wound cultures from patients with Fournier gangrene reveal that it is a polymicrobial infection with an average of 4 isolates per case. Escherichia coli is the predominant aerobe, and Bacteroides is the predominant anaerobe.

Other common microflora include the following:

- Proteus
 - Staphylococcus
 - Enterococcus
 - Streptococcus (aerobic and anaerobic)
 - Pseudomonas
 - Klebsiella
- Clostridium

In the majority of cases Fournier gangrene is a mixed infection caused by both aerobic and anaerobic bacteria.[1] Death can result from Fournier gangrene

Impaired immunity (eg, from diabetes) is important for increasing susceptibility to Fournier gangrene. Trauma to the genitalia is a frequently recognized vector for the introduction of bacteria that initiate the infectious process.

Although originally described as idiopathic gangrene of the genitalia, Fournier gangrene has an identifiable cause in 75-95% of cases.[11] The necrotizing process commonly originates from an infection in the anorectum, the urogenital tract, or the skin of the genitalia.[12]

Anorectal causes of Fournier gangrene include perianal, perirectal, and ischiorectal abscesses; anal fissures; and colonic perforations. These may be a consequence of colorectal injury or a complication of colorectal malignancy,[13, 14] inflammatory bowel disease,[15] colonic diverticulitis, or appendicitis.

Urogenital tract causes include infection in the bulbourethral glands, urethral injury, iatrogenic injury secondary to urethral stricture manipulation, epididymitis, orchitis, or lower urinary tract infection (eg, in patients with long-term indwelling urethral catheters).

Dermatologic causes include hidradenitis suppurativa, ulceration due to scrotal pressure, and trauma. Inability to practice adequate perineal hygiene, such as in paraplegic patients, results in increased risk.

Accidental, intentional, or surgical trauma[16] and the presence of foreign bodies may also lead to the disease

189. Facial disproportionate growth is characteristic of which of the following syndromes ?

- A. Treacher Collins
- B. Crouzon
- C. Pierre Robin
- D. All of the above

190. Dieulafoy's lesion is

- A. an arteriovenous malformation of stomach
- B. an angiodysplasia of colon
- C. a type of esophageal varices
- D. an aorto enteric fistula

Ans A

Dieulafoy's lesion (exulceratio simplex Dieulafoy) is a medical condition characterized by a large tortuous arteriole in the stomach wall that erodes and bleeds. It can cause gastric hemorrhage

191. The commonest deformity seen in CTEV is

- A. forefoot equinus
- B. equine varus of forefoot and hindfoot
- C. calcaneo valgus of hindfoot
- D. subluxation of calcaneo cuboid joint

Calcaneo-Navicular most common (2/3)

- talocalcaneal middle facet is next most common (1/3)
- rest uncommon

192. Histologically tumour osteoid is found in

- A. Ewing's Sarcoma
- B. Chondrosarcoma
- C. Osteosarcoma
- D. Chordoma

Ans C

Osteosarcoma is diagnosed most easily when it appears in its classic, or conventional, form. The tumor cells vary from spindled to polyhedral; their nuclei are pleomorphic and hyperchromatic. Mitotic figures are easily demonstrable, and atypical mitotic figures also may be identified. The tumor cells are engaged in the production of extracellular matrix that may be osseous, cartilaginous, or fibrous in various proportions. The production of bone or osteoid directly by tumor cells at least somewhere in the tumor is the absolute requirement for diagnosis

193. Swan Neck deformity of hand is a feature of

- A. Psoriatic arthritis
- B. Rheumatoid arthritis
- C. Osteoarthritis

D. Gouty arthritis

Ans b

Swan neck deformity is a deformed position of the finger, in which the joint closest to the fingertip is permanently bent toward the palm while the nearest joint to the palm is bent away from it (DIP hyperflexion with PIP hyperextension). It is commonly caused by injury or inflammatory conditions like rheumatoid arthritis or sometimes familial (congenital, like Ehlers-Danlos syndrome

194. Parathyroid Hormone (P.T.H.) does NOT lead to

- A. increased tubular reabsorption of calcium
- B. increased tubular reabsorption of phosphates
- C. bone resorption in skeleton
- D. augmentation of calcium absorption in the intestine

Ans B

195. Radiograph shows Looser's zones (pseudo-fractures) in which one of the following conditions ?

- A. Rickets
- B. Osteomalacia
- C. Scurvy
- D. Unicameral Bone cyst

Ans A

Looser's zones (also known as cortical infarctions) are wide transverse lucencies traversing bone usually at right angles to the involved cortex and are associated most frequently with osteomalacia and rickets . They are pseudofractures and considered a type of insufficiency fracture. Typically, the fractures have sclerotic irregular margins, and are often symmetrical

196. Caries Sicca is

- A. tuberculosis of the shoulder

B. flake formation (Rice water bodies) in synovial tuberculosis

C. tuberculosis of the sacrum

D. tuberculosis of the Sacroiliac

Ans A

Caries sicca (shoulder tuberculosis)

197. Which type of the following is NOT an External Fixator ?

A. Schanz pins

B. Lizarov

C. Knowle's pins

D. Joshi's

Ans C

Schanz pins – TEMPORARY EXT FIXATOR

Joshi's external stabilisation system fixator in the management of idiopathic clubfoot

if surgery is indicated, open reduction and internal fixation using a Knowles pin is an effective method for managing mid-third clavicular fracture

198. Spondylolysis is the term used for

A. forward slip of the vertebra over the lower vertebra

B. degenerative changes in the spine

C. defect in the pars-interarticularis

D. straightening of the lumbar spine

Spondylolysis is a defect of a vertebra. More specifically it is defined as a defect in the pars interarticularis of the vertebral arch.

199. 'Thomas Splint' was initially designed by HO. Thomas

- A. as a first aid for First World War Soldiers
- B. for the treatment of fracture shaft femur
- C. for initial ambulation and First Aid of supracondylar fracture femur
- D. for immobilisation in the treatment for tuberculosis of the knee joint

Ans D

The Thomas half-ring splints consist of a padded half-circle of steel which is strapped to the hip, hinged to a U-shaped rod that extends along both sides of the leg. An ankle strap may be fashioned from cloth, and tied or twisted to apply traction force. It was devised by H.O. Thomas, initially for immobilization for tuberculosis of the knee. It is now commonly used for the immobilisation of hip and thigh injuries

200. All the following statements are TRUE regarding Intertrochanteric fracture femur, EXCEPT

- A. Is a very common fracture in old age
- B. Can be managed conservatively
- C. Open reduction and internal fixation with early ambulation is the ideal treatment
- D. Non-union is a common complication

Ans D

intertrochanteric fractures should be considered for conservative treatment

Nonunion is much less common in Intertrochanteric fractures

Open reduction and internal fixation with early ambulation is the ideal treatment

Nonoperative management is often appropriate in the following circumstances:

- Nonambulatory or demented patients with mild pain
- Patients with old nondisplaced or impacted fractures and mild pain
- Unstable patients with major, uncorrectable comorbid disease

Patients at the end stage of a terminal illness

Nonunion

A fracture of the femoral neck is particularly likely to go on to nonunion - the situation in which the healing process has halted and the fracture will not heal without intervention. In young people with femoral neck fractures this condition would likely be treated by some form of bone grafting procedure and re-fixation in an attempt to obtain healing without sacrificing the hip joint. In the elderly, nonunion would more likely be treated by artificial hip replacement with the aim of getting the patient comfortable and back on their feet quickly.

Nonunion is much less common in Intertrochanteric fractures but the same principles apply

Intertrochanteric fracture

Intertrochanteric hip fracture in a 17-year-old male

Fracture supported by dynamic hip screw

An intertrochanteric fracture, below the neck of the femur, has a good chance of healing. Treatment involves stabilizing the fracture with a lag screw and plate device to hold the two fragments in position. A large screw is inserted into the femoral head, crossing through the fracture; the plate runs down the shaft of the femur, with smaller screws securing it in place.

The fracture typically takes 3–6 months to heal. As it is only common in elderly, removal of the dynamic hip screw is usually not recommended to avoid unnecessary risk of second operation and the increased risk of re-fracture after implant removal. The most common cause for hip fractures in the elderly is osteoporosis; if this is the case, treatment of the osteoporosis can well reduce the risk of further fracture. Only young patients tend to consider having it removed; the implant may function as a stress riser, increasing the risk of a break if another accident occurs.