1. Effects of hypoxemic ischemia in a neonate include?

a) Neurological damage

b) Subcutaneous fat necrosis

c) Pulmonary hypertension

d) Hyperglycemia

e) Hlpercalcemia

Correct Answer - A:B:C
Ans. is 'a' i.e., Neurological damage, 'b' i.e. Subcutaneous fat necrosis & 'c' i.e., Pulmonary hypertension
Clinical features of hypoxic ischemic encephalopathy'

- o Encephalopathy progress over time *?*

*B*irth to 12 hours → Decreased level of consciousness, poor tone, decreased spontaneous movement, periodic breathing or apnoea, seizures.

2. 12-24 hours -4 More seizures, Apnoeic spells, jitteriness, weakness.
3. After 24 hours → Hypotonia, consciousness, poor feeding, brainstem signs (oculomotor) and pupillary disturbances.

- Hypotonia is generalized, involves both limbs and trunk and all muscles simultaneously.

2. Crouzon syndrome consists of :

a) Maxillary hypoplasia

b) Syndactyly

c) Hydrocephaly

d) Macrocephaly

e) Mandibular prognathism

Correct Answer - A:C:E
Ans. is 'a' i.e., Maxillary hypoplasia, 'c' i.e. Hydrocephaly & `e' i.e. Mandibular prognathism
Crouzon syndrome is a genetic disorder characterized by the premature fusion of certain skull bones (craniosynostosis).
This early fusion prevents the skull from growing normally and affects the shape of the head and face.
Many features of Crouzon syndrome result from the premature fusion of the skull bones:

- Wide-set, bulging eyes and vision problems caused by shallow eye sockets
- Strabismus
- Midfacial hypoplasia
- Beaked nose:Upper airway obstruction develops secondary to septal deviation, midnasal abnormalities, choanal abnormalities, and nasopharyngeal narrowing
- Underdeveloped upper jaw(Maxillary hypoplasia)
- Dental problems and hearing loss, which is sometimes accompanied by narrow ear canals.
- Opening in the lip and the roof of the mouth
- Mandibular prognathism

3. Following are signs of good attachment during breast feeding –

a) Baby's mouth is wide open

b) Baby's lower lip is inverted

c) Upper areola is more visible than lower

d) Baby's chin touching the breast

e) Pain during sucking

Correct Answer - A:C:D
Ans. is 'a' i.e., Baby's mouth is wide open, 'c' i.e., Upper areola is more visible than lower & 'd' i.e., Baby's chin touching the breast
Signs of good attachment are
1. Baby's mouth is wide open,
2. Most of the nipple and areola in the mouth, only upper areolar visible, not the lower one,
3. Baby's chin touches the breast and
4. Baby's lower lip is everted

4. All are metabolic causes of liver disease except

a) Histiocytosis

b) Hemochromatosis

c) Gaucher's disease

d) Wilson disease

e) Galactosemia

Correct Answer - A
Ans. is 'a' i.e., Histiocytosis
Metabolic liver diseases can be classified into 3 categories:

- **Manifestations due to hepatocellular necrosis:** **G**alactosemia, hereditary fructose intolerance, tyrosinemia type I, Wilson disease, Hemochromatosis and al -antitrypsin deficiency.
- **Cholestatic jaundice** :Al -antitrypsin deficiency, Byler's disease, cystic fibrosis, Niemann-Pick disease and some disorders of peroxisome biogenesis.
- Hepatomegaly (disorders with liver damage & storage diseases): Glycogen storage diseases, cholesteryl ester storage disease and, when associated with splenomegaly, lysosomal storage diseases (eg:- Gaucher disease).

5. True about constitutional growth delay -

a) Baseline growth hormone decreased

b) IGF- f levels is low for chronological age

c) Growth delay only occurs after 2-3 years of age

d) Puberty spurt is delayed

e) Final height is within normal limits

Correct Answer - B:D:E

Ans. (b) IGF-I levels is low for chronological age, (d) Puberty spurt is delayed, (e) Final height is within normal limits

Constitutional Growth Delay

- These children are born with a normal length and weight and grow normally for first 6-12 months of life.
- Their growth then shows a deceleration so that the height and weight fall below the 3rd centile.
- By 3 yr of age, normal height velocity ls resumed and they continue to grow just below and parallel to the 3rd centile with a normal height velocity.
- The onset of puberty and adolescent growth spurt ls also delayed in these children but final height is within normal limits.
- Bone age is lower than chronological age and corresponds to the height age.
- History of delayed puberty and delayed height spurt is usually present in one or both parents.
- IGF-1 levels tend to be lower chronological age but within the normal range for bone age
- Pubertal growth spurt is delayed.
- Growth hormone responses to provocative testing tend to be lower

than in children

6. Feature of pallid breath holding spell in comparison to cyanotic breath holding spell:

a) More common than cyanotic breath holding spell

b) Elicited by painful stimulus

c) Bradycardia is prominent

d) Atropine is given in refractory cases

e) None

Correct Answer - B:C:D

Ans. (b) Elicited by painful stimulus. (c) Bradycardia is prominent, (d) Atropine is given in refractory cases

Breath holding spells

- Breath holding spell is a paroxysmal event occuring in 0.1% - 5% of healthy children from the *age* of 6 months to 6 years.
- The name for this behaviour may be misnomer in that it connotes prolonged inspiration. Infact, breath-holding occurs during expiration and is reflexive (not volitional) in nature.

There are two major types of breath holding spells ?

1. Cyanotic form (more common):

- Temporary disappearance or a decrease in intensity of the systolic murmur is usual as flow across the right ventricular outflow tract diminishes.
- Paroxysmal hypercyanotic attacks (hypoxic, "blue," or "tet" spells) are a particular problem during the 1st 2 years of life.
- The infant becomes hyperpnea and restless, cyanosis increases, gasping respirations ensue, and syncope may follow.

- Most frequently in morning on initially awakening or after episodes of vigorous crying

2. Pallid form:

- Triggered by sudden fright or pain or falling with a minor injury to the head
- Child may gasp and give a brief cry
- Child becomes pale, loses consciousness and becomes limp
- Child may become sweaty and may stiffen and have a few body jerks or lose bladder control.

Treatment:

- A subgroup of infants with breath holding spells have iron deficiency anemia. Iron therapy may treat not only the anemia, but also the breath-holding spells.
- Pallid infantile syncope may respond to atropine sulfate, which is used on an ongoing basis if spells are frequent, or intermittently if spells are situationally predictable (such as with venepuncture).

7. Which of the following finding is normal in infant?

a) Papilledema is rare in raised intracranial pressure

b) Floppy infant

c) Stroking patellar tendon of one side leads to contraction on opposite side

d) Elbow cross midline if passively done by examiner

e) Parachute reflex

Correct Answer - A:C:E

Ans. (a) Papilledema is rare in raised, (c) Stroking patellar tendon of one side leads tocontraction on opposite side (e) Parachute reflex

- In increased intracranial tension (ICT), there is separation of the cranial sutures, wide fontanels and increased head circumference.
- The **Macewen's** or **crackpot sign** indicates raised intracranial pressure after sutures and fontanel have closed.
- Papilledema is unusual in infant unless the increase in intracranial pressure is very rapid.
- Botulism causes acute flaccid paralysis → floppy infant which is not a normal finding.
- The knee jerk in an infant may produce a crossed adductor response (tapping the patellar tendon in one leg causes contraction in the opposite extremity), which, if present, does not become abnormal until 6-7 mo of age.
- When the upper extremity of a normal term infant is pulled gently across the chest, the elbow normally does not quite reach the

midsternum (scarf sign). The elbow of a hypotonia infant extends beyond the midline with ease"

- The parachute reflex is demonstrated by suspending the child by the trunk and by suddenly producing forward flexion as if the child were to fall. The child spontaneously extends the upper extremities as a protective mechanism. The parachute reflex appears before the onset of walking.

8. True about paracetamol toxicity in children:

a) Hypernatremia is common side effect of N-acetylcysteine

b) Liver failure may occur after 3-4 days

c) N-acetylcysteine is very less effective if given after 24 hour of paracetamol ingestion

d) N-acetylcysteine be given orally or IV

e) Renal damage also may occur

Correct Answer - B:C:D:E

Ans. b. Liver failure may occur after 3-4 days; c. N-acetylcysteine is very less effective if given after 24 hour of paracetamol ingestion; d. N-acetylcysteine be given orally or IV; e. Renal damage also may occur

- Acetaminophen intoxication ls a common cause of acute liver failure in adolescents and adults.
- Acetaminophen toxicity results from the formation of a highly reactive intermediate metabolite, N-acetyl-p-benzoquenoneimine (NAPQI).
- The acute toxic dose of acetaminophen is generally considered to be >200 mg/kg ln children younger than 12 yr of age, a single ingestion of >7.5 g is considered a minimum toxic dose in adolescents and adults.
- Adolescents have a higher incidence of toxic plasma concentration after ingestion than do children, and their exposures are often associated with intentional overdose.
- An IV preparation of NACLs also available

- N-acetyl cysteine can cause nausea & vomiting and diarrhoea or constipation.
- Rarely, it can cause rashes, fever, headache, drowsiness, low blood pressure and liver problems.

9. Which vaccine is recommended at 2 years of age according to latest IAP guidelines:

a) MMR

b) Pneumococcal conjugate

c) Varicella Rubella

d) Booster of Typhoid Conjugate Vaccine

e) IPV booster

Correct Answer - D

Ans.(d) Booster of Typhoid Conjugate Vaccine

Recommended age at which the vaccines should be received and type of vaccine:

AGE	VACCINE
At Birth	Hepatitis B • DTaP - Diphtheria, Tetanus, Acellular Pertussis • IVP - Inactivated Polio vaccine
2 months	• Hepatitis B • Pneumococcal vaccine • HIB - *Haemophilus* influenza Type B • Rotavirus vaccine • DTaP • IVP
4 months	• Pneumococcal vaccine • HIB • Rotavirus vaccine • DTaP

6 months	• IVP • Hepatitis B • Pneumococcal vaccine • HIB • Influenza vaccine** • Rotavirus vaccine
12 months	• MMR - Measles, Mumps, Rubella • Pneumococcal vaccine • Hepatitis A
15 months	• DTaP • HIB • Varicella
18 months	Hepatitis A
2 years	Booster of Typhoid Conjugate Vaccine
4 to 6 years of age	• DTaP • MMR • IVP • Varicella
11 years of age to adult	• Tdap • Meningococcal vaccine • HPV (human papilloma vaccine)

10. Maximum risk to foetus occurs when maternal infection with rubella occurs during which of the following time:

a) 6-12week

b) 12-l8week

c) 14-20week

d) 20-24week

e) 32-36week

Correct Answer - A

Ans. (a)6-12week

- In general, the earlier in pregnancy infection occurs, the greater the damage to the fetus. Maximum damage to the fetus occurs when infection is acquired in the first trimester of pregnancy.
- During acute rubella in pregnancy, the rate of congenital infection is over 90% in the 12 first weeks of pregnancy, approximately 60% in weeks 13 to 17, 25% in weeks 18 to 24 and then increases again during the last month of pregnancy

11. True about newborns:

a) Apgar score provide an immediate estimate of the physical condition of the baby

b) APGAR scoring is done at l min

c) APGAR scoring at 5 min has no prognostic value

d) Normal respiratory rate is RR is 30-60 breaths/min

e) Normal heart rate > 100 beats/min

Correct Answer - A:B:D:E

Ans. a. Apgar score provide an immediate estimate of the physical condition of the baby; b. APGAR scoring is done at l min; d. Normal respiratory rate is RR is 30-60 breaths/min; e. Normal heart rate > 100 beats/min

APGAR:

- A baby's first test
- Quick assessment of the newborn's overall well-being
- Given one-minute after birth and five minutes after birth
- Rates 5 vital areas

APGAR at 1 min, indicators for neonatal resuscitation

- Later times APGAR score (after 5 minutes) indicates about long term neurological damage (not neonatal mortality)

Signs	**0**	**1**	**2**
Heartbeats per minute	Absent	Slow (<100)	>100
Respiratory effort	Absent	Slow, irregular	Good, crying
Muscle tone	Limp	Some flexion of extremities	Active motion
	No		

Reflex irritability	No response	Grimace	Cry or cough
Color	Blue or pale	Body pink, extremities blue	Completely pink

12. True about cephalohematoma:

a) Maximum at birth then regress

b) Occurs due to forcep injury to periosteum

c) Edematous swelling of soft tissue

d) Localized collection of blood below periosteum

e) May extend across the midline and across suture lines

Correct Answer - B:D

Ans. (b) Occurs due to forcep injury to periosteum, (d) Localized collection of blood below periosteum

Cephalohematoma :

- It is caused by injury to the periosteum of the skull during labor and delivery.
- This leads to development of hemorrhage over one or both parietal bones with palpable edges appreciated as the blood reaches the limits of the periosteum.
- It is a collection of blood In b/w the pericranium and. the flat bone(subperiosteal) of the skull usually unilateral and, over a parietal bone

13. High risk infant are:

a) Birth order > 3

b) Twinning

c) Birth weight < 3 kg

d) Failure to gain weight for 3 consecutive months

e) Artificial feeding

Correct Answer - B:C:E

Ans. (b) Twinning, (d) Failure to gain weight for 3 consecutive months, (e) Artificial feeding

High risk infant risk

- Birth weight less than 2.5 kg
- Twins
- Birth order 5 or more
- Artificial feeding
- Weight below 70% of expected weight (i.e II and III degree of malnutrition)
- Failure to gain weight during three successive months
- Children with PEM, diarrhoea Working mother / one parent

14. True about breast milk jaundice is/are:

a) Appears after week

b) Typically bilirubin level is around 10-20 ng/d1

c) Phototherapy is useful

d) Managed conservatively

e) Diaper staining is presenting feature

Correct Answer - A:B:C:D

Ans. (a) Appears after 1 week, (b) Typically bilirubin level is around 10-20 ng/d1 (c) Phototherapy is useful, (d) Managed conservatively

BREAST MILK JAUNDICE:

- Occurs later in new born period, with bilirubin level peaking in 6th to 14th days.
- First, at birth, the gut is sterile, and normal gut flora takes time to establish.

Breast milk contains:

- Glucuronidase → Increase deconjugation and enterohepatic recirculation of bilirubin.
- High epidermal growth factor (EGF) → Increase Bilirubin uptake in the gut (enterohepatic circulation)
- Second, breast-milk of some women contains 3-alpha-20-beta pregnanediol.
- It inhibits uridine diphosphoglucuronic acid (UDPGA) glucuronyl transferase responsible for conjugation and subsequent excretion of bilirubin.
- In the newborn liver, activity of glucuronyl transferase is only at 0.1-1% of adult levels, so conjugation of bilirubin is already reduced.

- Third, lipoprotein lipase in breast milk produces increased FFA that inhibit hepatic glucuronyl transferase, which decreases conjugation of bilirubin.

TREATMENT:

Phototherapy:

- Any newborn with a total serum bilirubin greater than 359 µmol/l (21 mg/dL) should receive phototherapy

15. Risk factor for Neural tube defect is/are:

a) Diabetic mother

b) MTHFR mutation

c) Antiepileptic drug intake

d) Methotrexate intake

e) All

Correct Answer - E
Ans. E. All A,Diabetic mother B,MTHFR mutation C,Antiepileptic drug intake D,Methotrexate intake
ETIOLOGY:

- Teratogens-(hyperthermia, sulphas, antihistaminic, nutrition deficiencies and anticonvulsants use)
- Most strongly tied = carbamazepine, **valproic acid** (folate antagon)
- Folate deficiency

16. Which of the following is/are true about atrial septal defect(ASD):

a) Ostium primum is most common type

b) Surgery usually done before 3 year

c) Second heart sound-Wide and fixed

d) Soft delayed diastolic rumble at left lower left sternal border

e) None

Correct Answer - B:C:D

Ans. (b) Surgery usually done before 3 year, (c) Second heart sound-Wide and fixed, (d) Soft delayed diastolic rumble

Clinical manifestations of ASD

- Patients with ASD are generally asymptomatic.
- Mild effort intolerance and respiratory tract infection may occur.
- CHF is rare.

Physical examination

- Parasternal impulse
- Systolic thrill at 2nd left interspace.
- Accentuation of S, due to loud tricuspid component.
- Wide split and fixed S2.
- Ejection systolic murmur at the second and third left interspaces.
- Delayed diastolic murmur at the lower left sternal border.
- ASD with mitral stenosis → Lutembacher syndrome.

Chest x-ray in ASD

- Mild to moderate cardiomegaly artery segment.
- Prominent pulmonary
- Right atrial and right ventricular enlargement.

- Relatively small aortic shadow
- Plethoric lung fields.

17. A child is presenting features of rickets including changes on bones and has hypophosphatemia. Which of the following is true:

a) It is commonly caused by X linked recessive disorder

b) Normal zone of provisional calcification adjacent to the metaphysis is present

c) There is defect of mineralization of matrix

d) CRF maybe the cause

e) Renal tubule dysfunction leads to hypophosphatemia

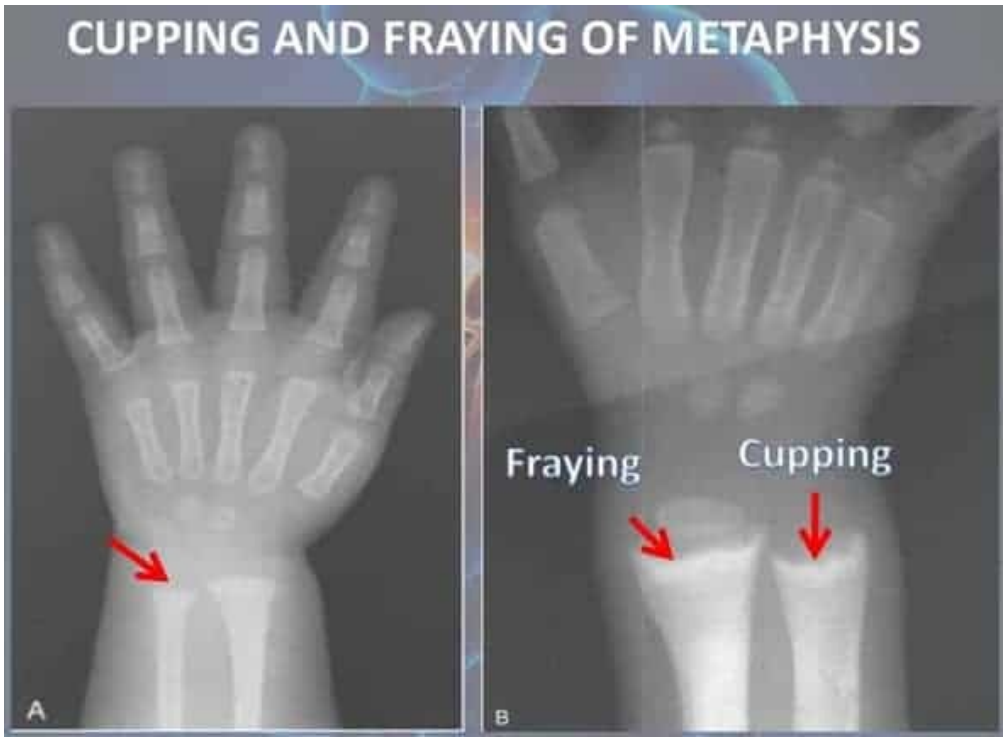
Correct Answer - C:E

Ans.(c)There is defect of mineralization of matrix, (e) Renal tubule dysfunction leads to hypophosphatemia

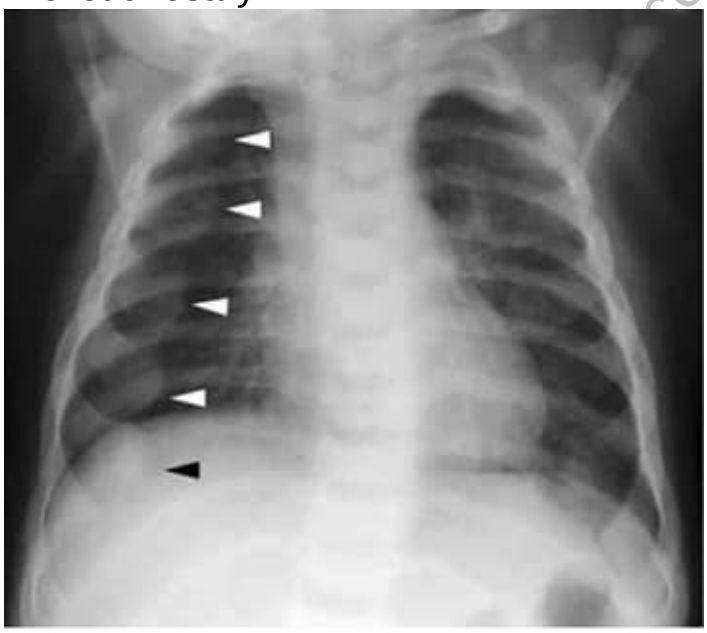
- X-linked. hypophosphatemic rickets (XLH) inherited in dominant manner(not recessive)
- Radiological changes are characteristically seen at metaphysis.
- The first change is loss of normal zone of provisional calcification adjacent to the metaphysis.
- Rickets, a disease of growing bone, occurs in children only before fusion of the epiphyses, and is due to unmineralized matrix at the growth plates.

RADIOGRAPHIC FINDINGS:

- Thickening and widening of epiphysis
- Cupping and fraying of metaphysis



- Irregular metaphyseal margins
- Flaring of anterior ends of ribs
- Ricketic rosary



'Rachitic rosary': costochondral junction enlargement (arrowheads)

- Bowing of diaphysis

18. Corticosteroids are useful in which of the following paediatrics disease:

a) TB meningitis

b) Endobronchial TB

c) Spinaventosa

d) Acute tuberculous pericardial effusion

e) Severe miliary tuberculosis

Correct Answer - A:D:E

Ans. (A) TB meningitis; b. Endobronchial TB; (D) Acute tuberculous pericardial effusion; (E) Severe miliary tuberculosis

Corticosteroids use in paediatrics:

These are useful in the treatment of some children with tuberculosis disease.

- Corticosteroids decrease mortality rates and long-term neurologic sequelae in some Patients with tuberculous meningitis by reducing vasculitis, inflammation, and, ultimately, intracranial pressure.
- Short courses of corticosteroids :Endobronchial tuberculosis that causes respiratory distress, localized emphysema, or segmental pulmonary lesions.
- Relieve symptoms and constriction associated with acute tuberculous pericardial effusion.
- Dramatic improvement in symptoms of tuberculous pleural effusion and shift of the mediastinum.
- Severe miliary tuberculosis have dramatic improvement with corticosteroid therapy if the inflammatory reaction is so severe that

alveolocapillary block is present.

19. Eosinophilia in children is/are present in:

a) Allergic rhinitis

b) Echinococcosis

c) Rheumatoid arthritis

d) Infectious mononucleosis

e) Wiskott-Aldrich syndrome

Correct Answer - A:B:C:E

Ans. (A) Allergic rhinitis; (B) Echinococcosis; (C) Rheumatoid arthritis; (E) Wiskott-Aldrich syndrome

Common causes of eosinophilia:

Acute:

- Allergic disorder: Asthma, atopic dermatitis, urticaria. drug hypersensitivity, pemphigoid
- Parasitic infestation: Toxocara, ascaris, amebiasis, strongyloidiasis, filarial, toxoplasmosis, trichinosia, schistosomiasis, malaria, scabies
- Fungal infections: Bronchopulmonary aspergillosis, coccidiomycosis
- Malignancy: Hodgkin lymphoma, T cell lymphoma, acute myelogenous leukaemia, myeloproliferative syndrome
- Hypereosinophilic syndrome

Chronic:

- Allergic disorders: Pemphigus, dermatitis herpetiformis
- Autoimmune disorders: Inflammatory bowel disease, rheumatoid arthritis, Myeloproliferative syndrome, hypereosinophilic syndrome ,Loeffler syndrome.
- Immunodeficiency syndromes: Hyper IgE, Wiskott Aldrich syndrome; Omenn syndrome; graft versus host reaction
- Miscellaneous: Thrombocytopenia with absent radii; renal allograft

rejection; Addison disease

20. Syndrome not associated with childhood leukaemia:

a) Edward syndrome

b) Fanconi syndrome

c) Diamond-Black anaemia

d) Patau syndrome

e) Kostmann syndrome

Correct Answer - A:D

Ans. (A) Edward syndrome; (D) Patau syndrome

Risk factors for Childhood Leukemia

- Down syndrome
- Shwachman-Diamond syndrome
- Kostmann syndrome
- Li-Fraumeni syndrome
- Fanconi syndrome
- Bloom syndrome
- Klinefelter syndrome
- Turner syndrome
- Neurofibromatosis type I
- Ataxia-telangiectasia
- Severe combined immune deficiency
- Paroxysmal nocturnal haemoglobinuria

21. A child has vitamin D deficiency rickets. Which of the following is/are correct regarding biochemical changes:

a) ↑ Alkaline phosphatase

b) ↑ serum calcium

c) ↑ parathyroid hormone

d) ↑ phosphate

e) ↑ 25-(OH)D3

Correct Answer - A:C

Ans. (A) ↑ Alkaline phosphatase ; (C) ↑ parathyroid hormone

BIOCHEMICAL REACTIONS:

- Serum calcium: normal or low
- Serum phosphate: low
- Alkaline phosphatase: high
  - Hypophosphatasia shows low level of alk. phosphatase
- PTH: High
- Hypophophatemia

22. True about fetal alcohol syndrome:

a) Increased birth weight

b) Normal fine motor development

c) Normal social skill development

d) Facial abnormalities

e) Intelligence subnormal

Correct Answer - D:E

Ans.(D) Facial abnormalities ; (E) Intelligence subnormal

Fetal alcohol syndrome

- High level of alcohol ingestion in pregnancy can cause damage to fetus, known as fetal alcohol syndrome.
- The harmful effects may be due to alcohol itself or due to one of its breakdown products. Some evidence suggests that alcohol may impair placental transfer of essential amino acids and zinc, both necessary for protein synthesis, which may account for IUGR.

Characteristics of fetal alcohol syndrome include : ?

- IUGR (not large proportionate body)
- Microcephaly
- Congenital heart defects (ASD, VSD)
- Mental retardation
- Facial abnormalities → Short palpebral fissures, epicanthal folds, maxillary hypoplasia, micrognathia, low set ears, smooth philtrum, thin smooth upper lip.
- Minor joint anomalies
- Hyperkinetic movements

23. Feature(s) of congenital rubella syndrome include:

a) Cataract

b) ASD

c) Deafness

d) Patent ductus arteriosus

e) All the above

Correct Answer - A:C:D

Ans. (A) Cataract; (C) Deafness; (D) Patent ductus arteriosus

- Congenital rubella syndrome (CRS) can occur in a developing fetus of a pregnant woman who has contracted rubella, usually in the first trimester.
- Triad shows:**PDA, cataract and deafnes**
- If infection occurs 0–28 days before conception, the infant has a 43% risk of being affected.
- Infection in 2nd trimester – may be deafness only.
- >6 wks – no major abnormalities
- Diagnosis: Isolation of virus in cell cultures of throat samples, urine or other secretions.
- Detection of IgM in single serum sample shortly after birth.
- Persistence of Rubella IgG antibodies serum beyond 1 year or rising antibody titre anytime during infancy in an unvaccinated child

24. A 4.2 kgs baby born to uncontrolled diabetic mother. The following condition will not occur in the baby:

a) Hypercalcemia

b) Hypoglycemia

c) Hyperbilirubinemia

d) Polycythaemia

e) Cardiovascular defects

Correct Answer - A
Ans. (A) Hypercalcemia
Neonatal Complication :

- Hypoglycaemia
- Respiratorydistress syndrome
- Hyperbilirubinemia
- Hypocalcemia
- Hypomagnesemia .
- Polycythemia
- Cardiomyopathy

25. True about caput succedaneum -

a) Oedematous swelling of scalp

b) Margins are clearly defined

c) Swelling resolve spontaneously after few days ofbirth

d) Swelling remains for three months

e) Maximum size at birth

Correct Answer - A:C:E

Ans. (A) Oedematous swelling of scalp; (C) Swelling resolve spontaneously after few days of birth; (E) Maximum size at birth

- Caput succedaneum is a diffuse, sometimes ecchymoticedematous swelling of the soft tissues of the scalp involving the area Presenting during vertex delivery.
- It may extend across the midline and across suture lines.
- The edemadisappears within the lstfew days of life.
- Molding of the head and overriding of the parietal bones are frequently associatedand become more evident aftercaput has receded; they disappear during the lst weeks oflife
- Analogous swelling, discoloration, and distortion ofthe face are seen in face Presentations.

26. A child has fever with redness of cheek. The causative organism forthis condition is:

a) Herpes virus

b) Parvovirus B-19

c) Adenovirus

d) Rubella

e) Roseola

Correct Answer - B

Ans. (B) Parvovirus B-19

Exanthema infectiosum:

- The characteristic rash first appears as erythematous flushing on the face in a slapped cheek appearance (red cheek).
- The most common manifestation of parvovirus B19 is erythema infectiosum, also known as fifth disease, which is a benign, self-limited exanthematous illness of childhood.
- It was the 5th in a classification scheme of common childhood exanthems.
- The preceding 4 exanthems were measles, scarlet fever, rubella, and Filatov-Dukes disease (an atypical scarlet fever), with roseola infantum as the "sixth disease

27. Ingestion of which of the following mimics scurvy in child:

a) Magnesium

b) Potassium iodide

c) Arsenic

d) Iron

e) Copper

Correct Answer - A
Ans. a. Magnesium

- Hypermagnesemia is most probable answer because it also cause paralysis
- Hypermagnesemia inhibits acetylcholine release at the neuromuscular junction, producing hypotonia, hyporeflexia, and weakness; paralysis occurs at high concentrations. The neuromuscular

28. In which condition(s), urethral opening is never at tip of glans penis:

a) Epispadias

b) Hypospadias

c) Urethral stricture

d) Bladder exstrophy

e) All of the above

Correct Answer - A:B:D

Ans. a. Epispadias ; b. Hypospadias ; d. Bladder exstrophy

Hypospadias

- A congenital disorder of the urethra where the urinary opening is not at the usual location on the head of the penis. It is the second-most common birth abnormality of the male reproductive system, affecting about one of every 250 males at birth.

EPISPADIAS

- An epispadias is a *rare* type of congenital malformation in which the urethra opens on the dorsum (the upper aspect) of the penis. It is often part of the condition termed Epispadias-exstrophy of the bladder. Epispadias is a mild form of bladder exstrophy, and in severe cases, exstrophy and epispadias coexist.

29. Which of the following true about new-born&children:

a) Erythropoietin level is more in preterm than term

b) Erythropoietin given to preterm only in some special cases

c) Erythropoietin given to Preterm can cause complication

d) a & b

e) None of the above

Correct Answer - B:C

Ans. (B) Erythropoietin given to preterm only in some special cases; (C) Erythropoietin given to Preterm can cause complication

- Most infants with birthweight of <1Kg RBC transfusions. A key reason why the nadir haemoglobin values of premature infants are lower than those of term infants is the former group's relatively diminished plasma EPO level in responseto anaemia.
- Preterm infants exhibit a sluggish EPO response to falling haematocrit values.
- Low plasma EPO level provide rationale the use of recombinant EPO in the treatment of anemia of prematurity.
- Proper doses of EPO and iron effectively stimulate neonatal erythropoiesis. However, the efficacy of EPO therapy to substantially diminish the needfar RBC transfusion has not been convincinglydemonstrate, particularly far sick, extremely premature neonates, and recombinant EPO has not been widely accepted as treatment for anemia of prematurity.
- In rare cases, some preparations of EPO have been associated with

the development of anti-EPO antibodies that result in severeanemia.

30. Macrocephaly is seen in –

a) Soto's syndrome

b) Gorlin Syndrome

c) Achondroplasia

d) Maternal diabetes

e) Struge-Weber syndrome

Correct Answer - A:B:C:E

Ans. is 'a' i.e., Soto's syndrome; 'b' i.e., Gorlin Syndrome; 'c' i.e., Achondroplasia; &'e' i.e., Struge-Weber syndrome

Syndromes:

- Fragile-X syndrome
- Neuro-cutaneous syndromes
- Tuberous sclerosis
- Sturge-Weber

Increased CSF:

- Hydrocephalus,
- Choroid plexus papilloma.

Bone disease :

- Achondroplasia
- Osteogenesis imperfecta
- OsteoPetrosis.

Others :

- AV malformation
- Intracranial haemorrhage
- Thalassemia major
- Hypervitaminosis-A
- Lead poisoning

- Pseudotumor cerebri
- Galactosemia
- Canavan's leukodystrophy.

Overgrowth syndromes :

- Soto syndrome (Cerebral gigantism)
- Weaver syndrome
- Simpson-Golabi-Behmel syndrome (bulldog syndrome)
- Macrocephaly -Capillary malformation (M-CMTC) syndrome.

Neuro-cardio facial-cutaneous syndromes:

- Noonan syndrome
- Costello syndrome
- Gorlin syndrome (Basal Cell Nevus syndrome)
- Cardio-facio-cutaneous syndrome.
- Fragile-x syndrome & leukodystrophies (Alexander disease, Canavan disease).

31. Large Skull size of newborn is seen in –

a) Fetal alcohol syndrome

b) Gestational diabetes

c) Turner's syndrome

d) Canavan's leukodystrophy

e) Neurofibromatosis

Correct Answer - D:E

Ans. is'd'i.e., Canavan's leukodystrophy; & 'e'i.e., Neurofibromatosis

Canavan disease:

- **Autosomal-recessive neurological disorder associated with macrocephaly and spongiform degeneration of brain.**
- There is either a lack of development or rapid regression of psychomotor function, loss of sight and optic atrophy, lethargy, difficulty in sucking, irritability, reduced motor activity, hypotonia followed by spasticity of the limbs with corticospinal signs, and an enlarged head (macrocephaly).

32. Clinical features of B-cell ALL in children include:

a) Fever

b) Intrauterine death

c) Shock

d) Rigor mortis

e) Mediastinal enlargement

Correct Answer - A:B:C:D

Ans. is'a'i.e., Fever;'b'i.e., Intrauterine death'c'i.e., Shock &'d'i.e., Rigor mortis

Clinical manifestations of ALL :

Symptoms related to depression of normal marrow function. :

- Anemia
- Neutropenia
- Fatigue, pallor
- Infection, intermittent lever
- Thrombocytopenia
- Bleeding, petechiae, ecchymoses, epistaxis.
- Bone pain and tenderness
- Generalized lymphadenopathy, splenomegaly and hepatomegaly
- Symptoms related to compression of large mediastinal vessels or airway

CNS manifestation :

- Headache, vomiting, nerve palsies.
- Serious infections may cause Septic shock and life threatening bleeding.

- Due to neutropenia, there maybe infectious diarrhea.

33. True about heart sounds/murmur in atrial septal defect -

a) Wide split S,

b) Early diastolic murmur

c) Loud shunt murmur

d) Delayed P_2

e) Attenuation of S1

Correct Answer - A:D

Ans. is'a'i.e., Wide split S2 & 'd'i.e., Delayed P_2

Clinical manifestations of ASD

- Patients with ASD are generally asymptomatic.
- Mild effort intolerance and respiratory tract infection may occur.
- CHF is rare.

Physical examination

- Parasternal impulse
- Systolic thrill at 2nd left interspace.
- Accentuation of S, due to loud tricuspid component.
- Wide split and fixed S2.
- Ejection systolic murmur at the second and third left interspaces.
- Delayed diastolic murmur at the lower left sternal border.
- ASD with mitral stenosis → Lutembacher syndrome.

Chest x-ray in ASD

- Mild to moderate cardiomegaly artery segment.
- Prominent pulmonary
- Right atrial and right ventricular enlargement.
- Relatively small aortic shadow

- Plethoric lung fields.

34. True about murmur(s) in Patent Ductus arteriosus -

a) Delayed diastolic murmur

b) Continuous murmur

c) Reverse splitting of S2

d) Ejection systolic murmur

e) Mid diastolic murmur

Correct Answer - A:B:C:D

Ans. is 'a' i.e., Delayed diastolic murmur; 'b' i.e., Continuous murmur; 'c' i.e., Reverse splitting of S2 ; &'d' i.e., Ejection systolic murmur

- Pressure gradient between aorta and pulmonary artery is maintained throughout the cardiac cycle (during systole and diastole) → Continuous murmur, i.e., murmur starts in systole after S1 , and reaches a peak at S2. It then diminishes and audible only a part ofdiastole.
- Larger blood volume passes through pulmonary circulation (blood from right side of heart plus some blood from aorta) → Pulmonary plethora which may cause pulmonary hypertension.
- Increased flow after passing through lung reaches the left atrium and causes volume overload → Left atrial dilatation and hypertrophy.
- Increased blood volume passes from left atrium to left ventricle through mitral valve, i.e., increased flow through mitral valve → Accentuation of S1 and delayed diastolic murmur.
- Left ventricle receives larger amount of blood that results in volume overload → Left ventricle enlargement.

- Extra volume passes through aortic area cause delayed closure of aortic valve which may close even after pulmonary valve (normal pulmonary valves close after aortic valves).→ Paradoxical splitting of S2, i.e., A, occurs after P.
- Large left ventricular volume ejected into the aorta results in dilatation of the ascending aorta → Aortic ejection click.
- Large volume of blood passes through normal aortic valve → Aortic ejection systolic murmur

35. Difference in Murmurs of PDA and ASD is/are -

a) Delayed P2 in PDA

b) Wide split of S2 in PDA

c) Accentuation of S1 in ASD

d) Continuous murmur in PDA

e) Delayed diastolic murmur in ASD

Correct Answer - D

Ans. is'd'i.e., Continuous murmur in PDA

- Delayed P2 and wide split S2 are feature of ASD (not PDA).
- There is continuous murmur in PDA.

36. Radiological features of TOF is/are -

a) Cardiomegaly

b) Boot shaped heart

c) Right sided aortic arch

d) Pulmonary Plethora

e) Coeur an sabot

Correct Answer - B:C:E

Ans. is 'b' i.e., Boot shaped heart; 'c' i.e., Right sided aortic arch; &'e' i.e., Coeur an sabot

Radiological features of TOF

- Boot shaped heart (Coeur an sabot)
- Normal heart size
- Oligaemic lung fields
- Right aortic arch (in 25%)

37. True about RETT Syndrome –

a) Macrocephaly

b) Cardiac arrhythmia

c) Seizures

d) Mental retardation

e) Autistic behaviour

Correct Answer - B:C:D:E

Ans. is'b'i.e., Cardiac arrhythmia,'c'i.e., Seizures,'d'i.e., Mental retardation &'e'i.e., Autistic behaviour

Rett's Syndrome

- This is the characteristic features, that they begin to loose their acquired skills, e.g., cognitive and head growth is normal during early period after which there is an arrest of growth.
- Acquired microcephaly
- Most children develop peculiar sighing respirations with intermittent periods of apnea that may be associated with cyanosis → Breath holding spells.
- Autistic behaviour → Impaired social interaction, language and communication.
- Generalized tonic-clonic convulsions occur in the majority.
- Feeding disorder and poor weight gain

38. Congenital adrenal hyperplasia is due to deficiency of enzyme –

a) 3ß-Hydrorysteroid dehydrogenase deficiency

b) 5à reductase

c) l7 à-Hydrorylasedeficienry

d) 2l-Hydroxylase deficiency

e) Aromatase

Correct Answer - A:C:D

Ans. (a) 3ß-Hydrorysteroid dehydrogenase deficiency; (C)l7 à-Hydrorylasedeficienry (d) 2l-Hydroxylase deficiency

Congenital adrenal hyperplasia (CAH)

- Group of AR disorder
- MC adrenal disorder in childhood
- Most common 21-hydroxylase deficiency
- In 21a-hyroxylese deficiency
- There is deficiency of mineralocorticoids & glucocorticoid.
- This leads to hypoglycemia, hyponatremia

39. Cause of lower GI bleed in children of age >2year of age

a) TB

b) Meckel's diverticulum

c) Aspirin

d) Esophageal varices

e) It is bleeding from a site distal to ligament of treitz

Correct Answer - A:B:C:E

Ans. is 'a' i.e., TB; "b' i.e., Meckel's diverticulum 'c' i.e., Aspirin; 'e' i.e., It is bleeding from a site distal to ligament of treitz

Lower GI bleeding is defined as bleeding from a site distal to ligament of treitz.

In >2 years:

- Infectious colitis
- Inflammatory bowel disease
- Tuberculosis
- Pseudomembrane colitis
- Cow milk protein allergy
- Uncommon : Amebiasis, cytomegalovirus, neutropenic colitis
- Fissure, Arteriovenous malformation
- Polyposis syndrome
- Solitary rectal ulcer syndrome
- Meckel's diverticulum
- Rectal varices or colopathy
- NSAIDS
- Haemorrhoids; Coagulopathy

- Henoch schonlein purpura

40. Which of the following is/are true about developmental milestones of 2 years old child -

a) Can walk up & down stairs with alternating feet

b) Walks up and down stairs, one step at a time

c) Rides tricycle

d) Knows age and sex

e) Weight quadruples of birth weight A child is having Wilson disease

Correct Answer - B:E

Ans. is'b' i.e., Walks up and down stairs, one step at a time; 'e' i.e., Weight quadruples of birth weight A child is having Wilson disease

GROSS MOTOR MILESTONES:

Age	Milestone
3 months	Neck holding
5 months	Rolls over
6months	Sitting supported
8months	Sitting without support
9months	Stands with support
12months	Stands without support, Walks but falls
15months	Walks alone, Creeps upstairs
18months	Runs, explores drawers
2 years	Walks upstairs (baby steps), Jumps
3 years	Walks upstairs (alternate feet), rides tricycle

4 years Hops on one foot, walks downstairs (alternate feet)

FINE MOTOR MILESTONES:

Age	Milestone
4 months	Bidextrous reach
6 months	Unidextrous reach
9 months	Immature pincer grasp
12months	Mature pincer grasp
15months	Imitates scribbling, tower of 2 blocks
18months	Scribbles, tower of 3 blocks
2 years	Tower of 6 blocks, vertical & circular stroke
3 years	Tower of 9 blocks, copies circle
4 years	Copies cross, bridge with blocks
5 years	Copies triangle

41. A child is presented with mediastinal mass, swelling of face, dyspnea & stridor, Next line of management is/ are

a) Administration of oxygen with ventimask

b) Tracheostomy

c) Biopsy of mass and fine needle aspiration cytology

d) Mediastinal radiation

e) Rasburicase

Correct Answer - A:B:C

Ans. is.a, i,e., Administration of oxygen with ventimask;'b'i.e., Tracheostomy ‘c’ Biopsy of mass and fine needle aspiration cytology

- This is a case of superior vena-cava syndrome or superior mediastinal compression syndrome.
- It is a medical emergency and requires immediate diagnostic evaluation and therapy.

Next line of management in the given patient includes :-

- Inclined position if possible
- Oxygen with ventimask
- Tracheostomy
- Biopsy and aspiration cytology
- Furosemide

42. Which of the following statement(s) is/are not correct -

a) Kayser-fleischer (KF) ring may be present in eye

b) Serum ceruloplasmin is < 20 mg/dl

c) Hepatic copper is >250 µg/g dry weight of liver

d) In symptomatic patients, the 24 hr urinary copper excretion is less than 40µg /day

e) Liver biopsy is of value for determining the extent and severity of liver disease

Correct Answer - D

Ans. (d) In symptomatic patients, the 24 hr urinary copper excretion is less than 40µg /day

Wilson's disease (Hepatolenticular degeneration)

DIAGNOSIS:

- The gold standard for diagnosis is liver biopsy with quantitative copper assay -> concentration of copper in a liver biopsy sample > 200µg/g dry weight.

Other tests are –

1. Serum ceruloplasmin level -> low(20mg/dl)
2. KF rings
3. Urine copper excretion -> increased (>100µg/day)
4. DNA Haplotype analysis.

43. Complication(s) of H. type of tracheo-esophageal fistula is/are

a) Dysphagia

b) Aspiration pneumonia

c) Hematemesis

d) Paroxysms of coughing or cyanosis with feeding

e) Death usually occur in infancy

Correct Answer - B:D

Ans. b) Aspiration pneumonia; d) Paroxysms of coughing or cyanosis with feeding

H-Type {Type-E) TEF :

- It accounts for 4-5% of all congenital TEF'

Common clinical features are :

- Recurrent respiratory symptom
- Paroxysms of coughing and cyanosis during feeding'
- Aspiration during feeding with cyanosis
- Abdominal distension.
- Dysphagia is not present because of patency of esophagus
- There may be associated anomalies→
- VACTERL (vertebral, anorectal, cardiac, tracheal, esophageal, renal, radial' limb) syndrome

44. True about benign idiopathic neonatal seizures

a) Called as 5d day fits

b) Seizure often occur later in life

c) Status epilepticus may occur

d) Family history is usually present

e) More common in preterm

Correct Answer - A:C

Ans. is 'a' i.e., Called as 5th day fits; 'c' i.e., Status epilepticus may occur

Benign Neonatal Seizures (5th day fits)

- Increasingly recognized syndrome characterized by seizures in the neonatal or infantile period.
- 2 forms :Familial and nonfamilial.
- Quite severe, and status epilepticus is common.

Nonfamilial form is characterized by :

- Idiopathic, self-Limited seizure in previously normal neonates.
- Most commonly occur at day 5

Familial seizures :

- Most frequently have their onset during the first week of life, but onset may occur as late as early infancy.
- These seizures may recur for several months before resolving.
- The family history reveals benign neonatal seizures in other family members.
- Prognosis is favourable in both syndrome, but seizures may occasionally occur later in life in the familial form.

45. All are true about wilmstumor except -

a) Painless abdominal mass

b) Mostly asymptomatic

c) Swelling is ballotable

d) Stage I- tumour confined to kidney

e) Completely excision is treatment of choice in stage I & II

Correct Answer - E

Ans. (e) Completely excision is treatment of choice in stage I & II

Presentation of Wilm'stumor :

- Asymptomatic abdominal mass (most common)
- Abdominel swelling (rcnallump) in wilm'stumor is ballottable.
- Abdominal pain (30%)
- Hypertension (25%)
- Heamaturia (10-25%)
- Fever (20%)
- Anorexia and vomiting

Stages	Features
Stage I	Tumor is limited to kideny and completely excised
Stage II	Tumor beyond kidney & completely excised. Regional extension confined to flank
Stage III	Residual non-hematogenous tumor confined to the abdomen. Lymph node involvement of hilus, periaortic chains, or beyond; diffuse peritoneal implants of tumor, tumor extends beyond surgical margins microscopically or macroscopically; tumor not completely removable because of local infiltration into vital structures

Stage IV	Deposits beyond stage III (e.g., lung, liver, bone, brain)
Stage V	Bilateral renal involvement at diagnosis.

Treatment-

1. For tumour confined to renal capsule-

- Radical nephrectomy followed by chemotherapy with antinomycin D and Vincristine

2. For tumour beyond renal capsule

- Nephrectomy followed by local radiotherapy and chemotherapy
- The ideal timing of radiotherapy for Wilms Tumour after surgery is within 10days.

3. Bilateral Wilm's tumour-

- Radical nephrectomy on larger side of tumour and partial nephrectomy on smaller side of tumour.

46. A 5-month-old infant has massive hepatomegaly. Which of the following condition(s) presents with massive hepatomegaly

a) Type I glycogen storage disorder

b) Biliary atresia

c) Gaucher's disease

d) Biliary cirrhosis

e) None of the above

Correct Answer - A:D

Ans. is'a'i.e., Type I glycogen storage disorder;'d'i.e., Biliary cirrhosis

Causes of massive hepatomegaly:

- Chronic congestive hepatomegaly eg..,
- VSD with heart failure (chronic).
- Cardiomyopathy with congestive heart failure.
- Constrictive pericarditis.
- Chronic extrahepatic cholestasis e.g., congenital biliary atresia.
- Malaria, kala-azar for long duration.
- Glycogen storage disease
- Congenital hepatic fibrosis
- Amoebic liver abscess.
- Hepatoma or secondary malignant deposits.
- Cysts of liver.
- Biliary cirrhosis.

47. Syndrome(s) related to paediatric brain tumors -

a) Tuberous sclerosis

b) Neurofibromatosis-2

c) Cokayne syndrome

d) Fanconi syndrome

e) Turcot syndrome

Correct Answer - A:B:E

Ans. is'a'i.e., Tuberous sclerosis 'b'i.e., Neurofibromatosis-2;'e'i.e., Turcot syndrome

Familial Syndromes Associated with Paediatric Brain Tumors:

- Neurofibromatosis type I
- Neurofibromatosis type 2
- von Hippel-Lindau syndrome
- Tuberous sclerosis
- Bilateral retinoblastoma
- Li-Fraumeni syndrome
- Cowden syndrome
- Turcot syndrome
- Gorlin syndrome
- Nevoid basalcell carcinoma

48. Common cause of distal small intestinal obstruction in infants /child:

a) Meconium ileus

b) Jejunal atresia

c) Ileal atresia

d) Meckel'sdiverticulum

e) Duodenal atresia

Correct Answer - A:B:C:D

Ans. a. Meconium ileu;s b. Jejunal atresia; c. Ileal atresia; d. Meckel'sdiverticulum

The primary etiologies of congenital small bowel obstruction involves:

- Abnormalities in anatomic development (jejunoileal stenosis & atresia)
- Mucus secretion (meconium ileus)
- Bowel wall innervation (long-segment Hirschsprung disease)
- Meckel diverticulum is the most common congenital anomaly of GI tract

49. Congenital hyperbilirubinemia is/are seen in:

a) Prematurity

b) Hypoalbuminaemic state

c) Hepatitis

d) Sepsis

e) Polycythemia

Correct Answer - A:C:D:E

Ans. a. Prematurity; c. Hepatitis; d. Sepsis; e. Polycythemia

Albumin less than 3.0 mg/dl is risk for hyperbilirubinemia neurotoxicity

Two other groups of disorders are associated with hyperbilirubinemia:

(1) Unconjugated hyperbilirubinemia seen in,

- Breast milk jaundice
- Blood group incompatibility
- Lucey-Driscoll syndrome
- Congenital hypothyroidism
- Upper intestinal obstruction
- Gilbert disease
- Crigler-Najjar syndrome
- Hereditary spherocytosis
- Non-spherocytic hemolytic anemia
- Drug-induced hyperbilirubinemia

(2) Conjugated hyperbilirubinemia present in,

- Dubin-Johnson syndrome

- Rotor syndrome
- Biliary atresia
- Neonatal hepatitis

50. Child can Swaps object from one hand to other in:

a) 2-3 month

b) 5-6 month

c) 6-12Months

d) 12-18 Months

e) 20-24Months

Correct Answer - B

Ans. b. 5-6 month

- Child can transfer objects from one hand to other by 6-7 month
- Transfer objects hanil to hanil in 5'5 months

51. Vitamin K dependent coagulation factor(s) in children is/ are:

a) Factor 2

b) Factor 7

c) Factor 8

d) Factor 9

e) Factor l0

Correct Answer - A:D:E

Ans. a. Factor 2; b. Factor 7; d. Factor 9; e. Factor l0

- Vit. K carboxylates glutamic acids of translation products of vitamin K-dependent proteins, to produce Ý-carboxyglutamate
- Factor II, VII, IX & X are procoagulant Proenzymes whereas proteins C & S are anticoagulant proenzymes

52. Which of the following causes neonatal jaundice:

a) Sickle cell anaemia

b) ß-Thalassemia

c) Meningitis

d) G6PD deficiency

e) Rh incompatibility

Correct Answer - B:D:E
Ans. b. ß-Thalassemia; d. G6PD deficiency; e. Rh incompatibility
ETIOLOGY:
Non Conjugated: Haemolytic:
Intrinsic causes :

- Membrane conditions
- **Spherocytosis(50%)**
- Hereditary elliptocytosis
- Systemic conditions
- Sepsis
- Arteriovenous malformation
- Enzyme conditions
- **G6PD deficiency**
- Pyruvate kinase deficiency
- Globin synthesis defect
- Sickle cell disease
- Alpha-thalassemia, e.g. HbH disease

Extrinsic causes :

- Alloimmunity
- Hemolytic disease of the newborn (ABO)
- Rh disease
- Hemolytic disease of the newborn (anti-Kell)
- Hemolytic disease of the newborn (anti-Rhc)
- Other blood type mismatches

Non-hemolytic causes :

- **Breast milk jaundice**
- Cephalohematoma
- Polycythemia
- Urinary tract infection
- Sepsis
- **Hypothyroidism**
- Gilbert's syndrome
- Crigler-Najjar syndrome
- High GI obstruction

Conjugated : Hepatic causes:

- Infections
- Sepsis
- Hepatitis A
- Hepatitis B
- TORCH infections vertically transmitted infections
- T – Toxoplasmosis / Toxoplasma gondii
- O – Other infections
- R – Rubella
- C – Cytomegalovirus
- H – Herpes simplex virus-2 or neonatal herpes simplex
- Metabolic
- **Galactosemia**
- Alpha-1-antitrypsin deficiency
- Cystic fibrosis
- Dubin-Johnson Syndrome
- Rotor syndrome
- Drugs
- Total parenteral nutrition
- Idiopathic

Post-hepatic:

- Biliary atresia or bile duct obstruction
- Alagille syndrome
- Choledochal cyst

53. Which of the following milestone is developed by child b/w 6 to 9 month:

a) Can point something with index finger

b) Swap some object from one palm to another

c) Can hold object with thumb & index finger

d) Can voluntary drop object

e) Can extend arm

Correct Answer - B:C:D

Ans. b. Swap some object from one palm to another ; c. Can hold object with thumb & index finger; d. Can voluntary drop object

6 MONTH:

Gross Motor:

- Sits unsupported.
- Puts feet in mouth in supine position

Visual-Motor/Problem-Solving:

- Unilateral reach.
- Uses raking grasp

Language:

- Babbles

Social/Adoptive

- Recognizes strangers

7 MONTH:

Gross Motor:

- Creeps

Language:

- Orients to bell((localized indirectly)

8 MONTH:

Gross Motor:

- Comes to sit.
- Crawls

Visual-Motor/Problem-Solving:

- Inspects objects

Language:

- “Dada” indiscriminately

Social/Adoptive

- Fingerfeeds

9 MONTH:

Gross Motor:

- Pivots when sitting .
- Pulls to stand
- Cruises

Visual-Motor/Problem-Solving:

- Uses pincer grasp
- Probes with forefinger
- Holds bottle, throws objects

Language:

- “Mama” indiscriminately
- Gestures, waves bye-bye
- Inhibits to “no”

Social/Adoptive

- Starts to explore environment
- Plays gesture games (eg, pat-a-cake)

54. True about osteum primum defect:

a) It is found in ASD

b) More commonly associated with ASD than VSD

c) May be associated with Down syndrome

d) Osteum primum ASD is more common than osteum secondum ASD

e) All the above

Correct Answer - A:B:C

Ans. a. It is found in ASD b. More commonly associated with ASD than VSD c. May be associated with Down syndrome

- The most common type of atrial septal defect is the ostium secundum type.
- Children with **Down syndrome**, however, are frequently afflicted with the ostium primum type of atrial septal defects, which may be accompanied by tricuspid and mitral valve malformations.
- More complex atrioventricular septal defects may also occur in this disorder.
- Children exhibiting these lesions should be specifically evaluated for chromosomal abnormalities.
- Clinically, the lesions produce left-to-right shunts with late cyanosis (after the right ventricle hypertrophies in response to developing lung disease from the increased blood flow in the pulmonary system).
- Neither **cystic fibrosis** nor **Gaucher disease** is specifically associated with cardiovascular defects.
- Dissecting aortic aneurysm is associated with **Marfan syndrome .**

55. Vesico-ureteric reflex is commonly diagnosed by:

a) Micturating cystography

b) Radioisotope renography

c) IVU

d) CT scan

e) All

Correct Answer - A:B

Ans. a. Micturating cystography ; b. Radioisotope renography

- The recommended radiographic evaluation for VUR includes a VCUG, renal-bladder ultrasonography and nuclear renal scan (DMSA).
- Perform VCUG and renal-bladder ultrasonography in any child with documented UTI before age 5 years, any child with pyelonephritis, and any male child with a symptomatic UTI.
- A renal-bladder ultrasonography may be used to screen older children with UTI. If ultrasonographic findings are abnormal, conduct further workup studies with VCUG to rule out VUR.
- During the initial workup in a patient with suspected reflux, perform the standard VCUG, which provides clear anatomic detail and allows accurate grading of the reflux degree. By filling and emptying the bladder several times (cycling) with the catheter still in the bladder, as described by Lebowitz, the yield of identifying VUR is clearly enhanced.
- The conventional cystography provides more anatomical accuracy than nuclear cystography; however, nuclear cystography is

advantageous (used widely to monitor VUR) because of lower radiation exposure and increased sensitivity.

56. True about Tanner stage II:

a) Penis increases in length

b) Penis increases in width

c) Scanty hair at base of penis

d) Darkening of scrotum

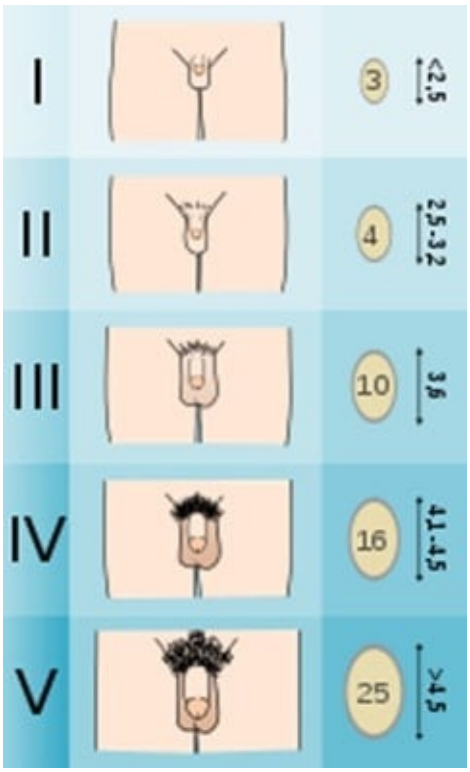
e) More growth occur in boys than girls

Correct Answer - A:C

Ans. a. Penis increases in length; c. Scanty hair at base of penis

DEVELOPMENT:

Genitals (male):



- Illustration of the Tanner scale for males.

Tanner I

- testicular volume less than 1.5 ml; small penis (prepubertal; typically age nine and younger)

Tanner II

- testicular volume between 1.6 and 6 ml; skin on scrotum thins, reddens and enlarges; penis length unchanged (9–11)

Tanner III

- testicular volume between 6 and 12 ml; scrotum enlarges further; penis begins to lengthen (11–12.5)

Tanner IV

- testicular volume between 12 and 20 ml; scrotum enlarges further and darkens; penis increases in length (12.5–14)

Tanner V

- testicular volume greater than 20 ml; adult scrotum and penis (14+)

Pubic hair (both male and female)

Tanner I

- no pubic hair at all (prepubertal) (typically age 10 and younger)

Tanner II

- small amount of long, downy hair with slight pigmentation at the

base of the penis and scrotum (males) or on the labia majora (females) (10–11.5)

Tanner III

- hair becomes more coarse and curly, and begins to extend laterally (11.5–13)

Tanner IV

- adult-like hair quality, extending across pubis but sparing medial thighs (13–15)

Tanner V

- hair extends to medial surface of the thighs (15+

57. Preterm babies have increased chance of:

a) Heart disease

b) Respiratory distress syndrome

c) Necrotising colitis

d) Meconium aspiration syndrome

e) All

Correct Answer - A:B:C

Ans. a. Heart disease; b. Respiratory distress syndrome; c. Necrotising colitis

Preterm Neonate:

- Respiratory syndrome: Pulmonry oedema, Intra-alveolar haemorrhage, Idiopathic respiratory distress syndrome & Bronchopulmonary dysplasia
- Infection: Bronchopneumonia, meningitis & necrotizing enterocolitis . Metabolic (hypoglycemia, hypocalcemia)
- Retinopathy of prematurity
- Asphxia
- Cerebral haemorrhage
- Hypothermia
- Fetal shock
- Heart failure Precipitated by asphyxia with rapid development of pulmonary edema. There may be patent Ductus arteriosus
- Jaundice
- Anaemia

58. Which of the following can presents with cyanosis at birth:

a) Tetralogy of Fallot

b) TGA

c) PDA

d) VSD

e) Atrial septal defect (ASD)

Correct Answer - A:B

Ans. a. Tetralogy of Fallot; b. TGA

- TOF: Cyanosis may be present from birth or make its appearance some years after birth.
- TGA: Patients of complete TGA with intact ventricular septum are cyanotic at birth.
- PDA, ASD & VSD are acyanotic condition

59. Which of the following is/are true regarding development of child during 6 to 12 yr. of age:

a) Weight increases by l-2kg/yr

b) Head grow at the rate of 2-3cm/yr

c) Growth occur continuously

d) Growth occur in spurts

e) Height increases at rate of 6-7 cm/yr

Correct Answer - D:E

Ans. d. Growth occur in spurts; e. Height increases at rate of 6-7 cm/yr

Physical Development During Middle Childhood (6-11 yr of age)

- Growth during the period averages 3-3.5 kg (7 lb) and 6-7 cm (2.5 in) per year .
- Growth occurs discontinuously, in 3-6 irregularly timed spurts each year, with each growth spurt lasting, on average, 8 wk.
- The head grows only 2-3 cm in circumference throughout the entire period, reflecting a slowing of brain growth.

60. True about Asperger syndrome:

a) More common in girl

b) Repetitive activity pattern

c) Subnormal intelligence is consistent feature

d) Severe language impairments is characteristic

e) All

Correct Answer - B

Ans. b. Repetitive activity pattern

Asperger syndrome:

- It is four times more likely to occur in males than in females and usually is first diagnosed in children between the ages of 2 and 6.
- The common characteristics include average or above average intelligence"
- There is no clinically significant general delay in spoken or receptive language or cognitive development. Self' help skills, adaptive behaviour, and curiosity about the environment during the first 3 years should be at a level consistent with normal intellectual development

61. True about Autistic disorder:

a) Quality decrease in social interaction

b) All affected children have subnormal intelligence

c) Treatment should targeted toward Speech development

d) Seen only after 3 yr of age

e) Stereotyped patterns of behaviour

Correct Answer - A:C:E

Ans. a. Quality decrease in social interaction ; c. Treatment should targeted toward Speech development ; e. Stereotyped patterns of behaviour

Autistic disorders are characterized by the triad of impaired social interaction, communication and imagination. These are associated with rigid repetitive pattern of behaviour.

- The onset of autistic disorder always occurs before age 3, at two peak periods.
- Difficulty in concentration and communication,
- Lesion in frontal and temporal lobe and cerebellum,
- Delayed speech and language development,
- Problems in forming social relationships in early childhood,
- Stereotyped movements,
- Poor speech,
- Lack of social interaction,

62. True about HIV infection in infants:

a) Mainly occur through horizontal transmission

b) HIV DNA PCR positive at 3 month confirms diagnosis

c) Positive antibody test for IgG antibody at 3 month confirm infected infant

d) Passive transfer of maternal body generally persists for 12 month

e) All

Correct Answer - B:D

Ans. b. HIV DNA PCR positive at 3 month confirms diagnosis; d. Passive transfer of maternal body generally persists for 12 month

- All infants born to HIV-infected mothers to antibody positive at birth because of passive transfer of maternal HIV antibody across the placenta during gestation.
- Most uninfected infants lose maternal antibody between 6 and 12 month of age and are known as seroreverters.
- Because a small proportion of uninfected infants continues to test HIV antibody positive for up to 18 month of age, positive IgG antibody tests, including the rapid tests, cannot be used to make a definitive diagnosis of HIV infection in infants younger than this age.
- In any child >18 months of age, demonstration of IgG antibody to HIV by a repeatedly reactive enzyme immunoassay (EIA) and confirmatory test (immunoblot or immunofluorescence assay) establishes the diagnosis of HIV infection.
- Viral diagnostic assays, such as HMNA or RNA PC& HIV culture, or HIV p24 antigen immune-dissociated p24

- By 4-6 months of age, the IIIV culture and/or PCR identifu all infected infants.

63. Common feature of marfan syndrome & Homocystinuria:

a) Arm span > Height

b) Ectopia lentis

c) Hypermobility of joint

d) Mental retardation

e) Arachnodactyly

Correct Answer - B:E

Ans. b. Ectopia lentis; e. Arachnodactyly

- Arachnodactyly: This feature can occur on its own, with no underlying health problems. However, it can also be associated with certain medical conditions. Examples includes Marfan syndrome, Ehlers-Danlos syndrome, Loeys-Dietz syndrome and homocystinuria.