

## **Problem Solving**

### **Growth**

- 1- An infant can move his head from side to side while following moving object, can lift his head from prone position 45 degrees off the examination table, and smiles when encouraged. he can sit with support The most likely age of this infant is:

A. 1 month  
B. 5 months  
C. 9 months  
D. 12 months

*Move from side to side=1month*

*Smiles=2 months*

*Lift his head 45 degrees=3rd month*

*Sit without support= 4th/5th month*

- 2- A child is brought to pediatric clinic for a well-child visit. He is able to support his head but can not sit even with support . he smiles on social contact and laughs but can not transfer toys from one hand to another. What is the most likely age of this child ?

A. 2 months .  
B. 4 months.  
C. 6 months.  
D. 8 months.

*He is able to support his head at age of 3-4 months*

*He can not sit even with support at age pf 5-6 months).*

*He smiles on social contact and laughs at age of 4 months*

*He can not transfer toys from one hand to another at the age of 6 months*

**N.B : To train your self more : MCQ Part 1 : growth chapter ( Q number:**

### **Genetics**

- 3- The mother of a 4 months old boy complains her child still cant support his head. On examination the child has a flat occiput, and a transverse plamar crease.local examination of the heart shows a hollow systolic murmur over the left parasternal area. One of the common complications of this condition is:

1. ITP  
2. G6PD deficiency  
3. Leukemia  
4. Pyloric stensis

*The child shows signs of down's syndrome ( leukemia incidence 10 times more than normal population)*

**N.B :To train your self more : MCQ Part 1 : genetics chapter ( Q number**

## **Neonatology**

- 4- A 4week-old, fullterm, breast fed girl has worsening yellowish discolouration of the skin, that the parents first noticed 15 days ago. On her examination, she is well appearing with good suckling and reflex activity, and is noted to have a liver edge 4cm below her costal margin. Her total bilirubin is 12 and direct bilirubin is 9.

What is the most likely diagnosis

- A. Biliary atresia
- B. Cholecystitis
- C. Sepsis
- D. Breast milk jaundice

*15 days = persistent jaundice .Appears good = not lethargic/septic .Hepatomegaly, direct bilirubin is more than 20% of total bilirubin , therefore cholestatic jaundice not breast milk*

*Choice (A): [the right choice]*

*Points with: Direct bilirubin is more than 20% of total bilirubin + hepatomegaly .Biliary atresia as it's the most appropriate choice in the choices given in this case, but it could be any other cause of cholestasis.*

*Choice (B): not related to the case at all*

*Choice(C): points against: she's appearing good with good activity*

*Choice (D): if breast milk jaundice, it is (unconjugated hyperbilirubinemia).*

- 5- A 3 day old infant presents with the complaint of yellowish skin. Both the mother and the baby have O +ve blood. The baby's direct serum bilirubin is 0.2 mg/dl. With a total serum bilirubin of 11.8 mg/dl. The hemoglobin is 17 gm/dl. Platelete count is 278,000/ul. Reticulocyte count is 1.5%. the peripheral smear doesn't show abnormalities. The most likely diagnosis:

- A. Rh or ABO incompatibility
- B. Physiologic jaundice
- C. Sepsis
- D. Congenital spherocytic anemia
- E. Biliary atresia

*3 days old: physiologic jaundice occurs at this age. Both mother and baby have O+ve blood: not incompatibility . Blood picture completely normal (not hemolytic cause).Peripheral smear shows no abnormality: normal shape of blood cells, so no spherocytosis.*

*Choice (A): points against: no hemolysis evident by hemoglobin and reticulocyte count*

*Choice (B): points with: age, indirect hyperbilirubinemia ( total less than 15 mg/dl, exclusion of other causes.*

- 6- A 3 week old baby, who was full term, Is brought to the hospital. He has recently been having problems completing his feeds and today appears short of breath. On examination, his HR was 180/min, RR 72/min, rectal temperature 37.4, BP 80/50, and he had a 4 cm hepatomegaly. All blood tests were normal. What is the most likely diagnosis?

- A. Neonatal hepatitis
- B. Respiratory distress syndrome
- C. Heart failure
- D. Congenital infection

*Infant is recently short of breath + high heart rate not in proportion with age nor temperature + high RR + hepatomegaly = heart failure Heart failure triad: Tachypnea - Tachycardia - Tender hepatomegaly*

*Choice (A): will not cause all these signs*

*Choice (B): points against: it is more in premature*

*Choice (C): points with: Heart failure triad is present*

*Choice (D): points against: Normal blood tests, no other symptoms associated*

- 7- A 2 week old infant develops **fever, 38.9 C, vomiting, and irritability**. His heart rate is 170/min, and RR is 40/min. The infants anterior **fontanelle is full**, but there is no nuchal (neck-related) rigidity. The rest of examination is unremarkable.

**What is the appropriate management?**

- A. Oral fluid and follow up in 24 hr
- B. Oral amoxicillin and follow up in 1 week
- C. Admission to hospital for investigation and ttt
- D. IM Ceftriaxone and follow up in 1 week

*Full fontanelle = increased ICT. Fever, vomiting and irritability = infection*

*There isn't neck rigidity because this sign and others like brudzinski's..etc.. are absent in small infant because of the open fontanelle which offers a relief of the increased tension.*

- *Choice A: can never be a choice in anyway*
- *Choice B and C and D : home management is unacceptable in this case*
- *Choice C: [the right answer] , the case may be septicaemia with meningitis, so the infant needs to be admitted for CT, CBC, culture, IV antibiotics, follow up for complications*

- 8- A 10 week old infant develops fever (38.5 C), vomiting, and irritability. His heart rate is 170/m and respiratory rate is 40/m. the infant's anterior fontanel is full, but there is no neck rigidity. The rest of the examination is unremarkable. What is the most appropriate **diagnostic** test?

- A. CSF examination
- B. Complete blood count and ESR.
- C. X- ray skull
- D. Chest x-ray

*choice (1): right choice: From the above cerebrospinal fluid examination is the most appropriate diagnostic test for meningitis as it indicates turbidity of CSF and confirm meningitis*

*Choice (2): It is not a specific diagnostic test as it will show increase in WBCS count indicating infection but doesn't detect the type of infection.*

*Choice (3): : it is useless*

*Choice (4): the respiratory rate is normal and there is no symptoms suggesting any chest problems.*

- 9- A 1 –day- infant who was born by a difficult forceps delivery is alert and active. She doesn't move her left arm and keeps it internally rotated by her side with the forearm extended and pronated. Which of the following is an expected clinical finding?

1. Intact both Moro and grasp reflex.
2. Lost both Moro and grasp reflex.
3. Intact Moro and lost grasp reflex
4. Lost Moro and intact grasp reflex.

All points to Left Erb's palsy. Expected that all reflexes are lost except grasp reflex.

- 10- An infant weighing 1400 gm is born at 32 weeks. HR:140, RR:80, temp:35 C. the lungs are clear with bilateral breath sounds, there is no murmur.**

**Which of the following is the most important first step in evaluating this infant:**

1. Obtain CBC and differential
2. Perform lumbar puncture
3. Chest x-ray
4. Place infant under warmer
5. Administer oxygen

*Premature, low birth weight, high HR, RR low temperature with normal lungs and heart, hypothermia which is a common presentation in prematures causes all these findings.*

- 11- A 1 day old infant develops jitteriness and convulsions . He was born at 34 weeks gestation to a woman whose pregnancy was complicated by diabetes mellitus and pregnancy induced hypertension. Which of the following serum values could explain his condition?**

1. Serum bicarbonate level of 22 mEq/dl
2. Serum calcium of 6.2 mg/dl
3. Serum glucose of 45 mg/dl
4. Serum sodium of 138 mEq/dl.

*All values are normal except serum calcium . Premature infant (34 weeks) prone to hypocalcemia . Infant of diabetic mother develops hypocalcaemia in the first 3 days*

- 12- A 1 week old infant presents with large pale blue lesion over the buttocks bilaterally. The lesion is not palpable and it is not warm or tender. The mother denies trauma and reports that the lesion has been present since birth.**

**What is the most appropriate action ?**

- A. Check platelet count.
- B. Give vitamin K injection.
- C. Delay circumcision.
- D. Reassurance.

*The lesion is not palpable, not warm or tender excluding trauma and inflammations.*

*The mother denies trauma excluding child abuse. This case is fulfilling the criteria of Mongolian spots that disappear at 1-3 years spontaneously*

- 13- A newly born infant full term weighs 3.6 kg was born by caesarian section and there was little amniotic fluid, he cried after birth but later on, after few hours he started to develop distress. x ray showed fluid line and increased bronchovascular markings the diagnosis is:**

- 1- RDS
- 2- Transient tachypnea of newborn
- 3- Meconium aspiration

4- Pneumonia

Full-term, CS, respiratory distress, increased bronchovascular markings → TTN

**14- Newborn his mother come for routine exam on examination he is pale pink ,respiratory rate 35,heart rate was 80/60,breast nodules which of the following concern about:**

- A. Blood pressure
- B. Respiratory rate
- C. Breast nodules
- D. Non of the above

**N.B :To train your self more : MCQ Part 1 : genetics chapter ( Q number**

## **Nutrition**

**15- A 2 week old infant has had no immunization, sleeps 18 h a day, weight 3.5 kg, and takes 60 ml of standard infant formula four times a day, but no solid food and no iron or vitamin supplements. What should be of most concern about this infant?**

- 1- Immunization state
- 2- Caloric intake
- 3- Iron levels
- 4- Circadian rhythm

*Choice (1): infant of 2 weeks has no immunization*

*choice (2) : average feeding is 8-10 times ⇒ per day, this infant has low caloric intake)*

*Choice (3): 2 weeks infant doesn't need iron at this age.*

*Choice (4): unrelated*

**16- A 7-week old baby is referred with a 2-week history of vomiting. He is being formula fed (160 ml) every 2-3 hrs. On examination he is well thriving, on the 90<sup>th</sup> percentile and has a normal examination. What is the most likely diagnosis:**

- A -Pyloric stenosis
- B -Gastro-oesophageal reflex
- C -Over-feeding
- D- Gastroenteritis

*Choice (A):points against:The baby is thriving, on the 90th percentile = growing well, in the high normal. If it was pyloric stenosis, there should be vomiting and malnutrition*

*Choice (B):points against: occurs on the second week, the child would not be on the 90th percentile,*

*Choice (C):[the right choice] : points with: high dose formula, high amount(every 2-3 hours).*

*Choice (D):points against: there is no inflammatory symptoms or signs, no diarrhea.*

**17- A 14 month old infant presents to clinic because of poor weight gain and delayed walking . History revealed exclusive breast feeding with little baby food. On examination he has large head, distended abdomen, and palpable swellings at costochondral junctions.**

**What is the expected laboratory finding in this infant ?**

- A. Low calcium.
- B. Low alkaline phosphatase .

C. Low phosphorus.

D. None of the above.

*This is typical case of infantile vitamin D deficiency rickets.*

*Choice A: Points against: serum Ca level is usually normal in case of rickets and decreases only in certain cases as parathyroid exhaustion, severe cases and shock therapy with vit. D as it causes deposition of blood Ca in bone.*

*Choice B: Points Against: serum level of alkaline phosphatase increases in case of rickets.*

*Choice C: (the right choice) phosphorus markedly decrease in case of rickets.*

**18- A 1 month old infant is breast fed since birth. His weight is 4 kg. The mother is giving the feeds every 2-3 hours. She is not giving any vitamin or iron supplementation. He passed 4 yellow stools/day. What should be of most concern about this infant ?**

A. Stool pattern.

B. Caloric intake.

C. Iron levels.

D. None of the above.

*Choice A : his stool pattern is normal.*

*Choice B : his caloric intake is very good., normal weight*

*⇒ Choice C : he needs no vitamin or iron supplementation at this age.*

*Choice ⇒ D : right answer.*

**19- A 6 months old infant has eaten a diet with the following content and intake for the past 5 months: proteins 4% of calories, fat 40% of calories and carbohydrates 56% of calories. 105 calories per kilogram of body weight per day.**

**This patient will display symptoms consistent with which of the following?**

1. Rickets

2. Marasmus

3. Obesity

4. kwashiorkor

*low protein(idea ratio 15%) , high carbohydrates in diet (ideal ratio), normal calories.*

**20- A 1 year old infant is complaining of delayed sitting and repeated chest infection, on examination there is prominent costochondral junction, he is exclusively breast fed, He received multiple injections for treatment of his condition. All of the following are expected complication for his condition except:**

1. Anorexia

2. Vomiting

3. Oliguria

4. Nephrocalcinosis

*Multiple injections of vit. D caused hypervitaminosis D, that presents with polyurea not oliguria*

**N.B :To train yourself more : MCQ Part 1 : nutrition chapter ( Q number**

## **Infections**

- 21- A 10 months old infant presents with a day history of blanching confluent rash which started on his face and now covers his entire body. He is miserable with conjunctivitis and fever of 38 C. the illness started with runny nose and cough 5 days previously. What is the most likely diagnosis?**
- A. Scarlet fever
  - B. Sweat rash
  - C. Chicken pox
  - D. Measles
- A) Points against: Fever is followed in 2 days by rash + sore throat*  
*B) Points against: the disease is obviously of infectious condition*  
*C) Points against: presents with fever of low grade followed 1 day later by rash*
- 22- A 15 months old infant presents to the emergency department with a 4-day history of high fever without any localizing sign. She suffers self limiting convulsion and is admitted for observation. The next day the fever subsides, but a red popular rash develops over her trunk and abdomen. What is the most likely diagnosis:**
- A. Measles
  - B. Rubella
  - C. Roseola
  - D. Chicken pox
- Choice (A): points against :In measles, there should be localizing sign (3Cs), and the fever should rise markedly with appearance of rash on the 4th/5th day of fever, rash starts on the face*  
*Choice (B): points against: Fever should increase with appearance of rash.*  
*Choice (C): the right answer Prodroma is 4 days showing high fever (may be febrile convulsions) , rash appears after 4 days, first on trunk, fever subsides*  
*Choice (D): in chickenpox the rash is vesicular.*
- 23- An 8 years old girl present with low grade fever and a diffuse maculopapular rash. On examination her physician notes mild tenderness and marked swelling of her posterior cervical and occipital lymph nodes. Three days after the onset of illness , the rash has vanished. What is the most likely diagnosis ?**
- A. Measles.
  - B. German measles.
  - C. Roseola infantum.
  - D. Infectious mononucleosis.
- An 8 years old girl with low grade fever (this is infection).*  
*With Swelling of specific lymph nodes posterior□cervical & occipital ) and not generalized lymphadenopathy And rash which disappeared 3 days after the onset of illness (very typical of German measles) . This case fulfills the criteria of German measles*  
*Choice A : a. Points against: there is no Koplik spots, no high fever; there is no conjunctivitis, no coryza*  
*Choice B : ( the right choice)*  
*Choice C :Points against: the age,. Fever accompanying Roseola infantum is high fever not low grade fever.*  
*Choice D:*

- a. Points against; there is no evidence of sore throat or presence of any exudates on the tonsils.
- b. There is no evidence of splenomegaly which is characteristic in case of infectious mononucleosis.

**24- A 10 year old female infant is brought to clinic by his mother because he developed a painless rash on his face and legs. The rash began as red papules and then became vesicular and pustular and finally it coalesced in honeycomb-like crusts. The boy does not have fever and the rash seems spreading to other areas. What is the most likely causative agent?**

- A. Herpes simplex
- B. Herpes zoster
- C. Emptigo (staph.)
- D. Meningococci

**N.B :To train yourself more : MCQ Part 1 :infection chapter ( Q number**

### **Respiratory**

**25- A 3 years old boy came to the outpatient's clinic complaining of mild fever, runny, nose, malaise and vomiting. On throat examination there was hyperemia of the throat. What is the most likely medicine to be given?**

- 1-Oral Amoxicillin.
- 2- Paracetamol.
- 3- Multivitamin.
- 4-Acetylsalicylic acid.

*Choice (1): points against: A mild infection (only runny nose, some hyperemia, mild fever, malaise), therefore most probably viral not bacterial infection. So exclude oral amoxicillin.*

*Choice (2): points with: All the child needs in this case is supportive measures like an antipyretic (paracetamol). Viral infections resolve spontaneously.*

*Choice (3): points against: Child is feverish, vitamins may increase load (bacteria can use some vitamins/iron causing more problems)*

*Choice (4):points against: Child 3 years old with mild throat infection most probably viral, so don't give acetylsalicylic acid as it may cause Reye's syndrome. It is acute fatty hepatoenkephalopathy with peak incidence in children ranging between 6-12 years old, occurs with viral infection e.g.influenza, measles*

**26- A 3 years old fully immunized child presents with fever and difficulty in breathing. She has had tonsillitis over the past week, for which she received oral antibiotics for 2 days. On examination, she looks unwell, she has mild recession, and a soft inspiratory sound is audible. What is the most likely diagnosis:**

- A. Bronchial asthma
- B. Retro-pharyngeal abscess
- C. Epiglottitis
- D. Pneumonia

*A fully immunized child, so she doesn't have pneumonia due to hemophilus influenza. she has tonsillitis the week before, for which she received an inadequate dose of antibiotics (2days).now, her general condition is unwell, she has fever, dyspnea and stridor (i.e.soft inspiratory sound)*



*Choice (A): Point against: the audible sound is inspiratory, in case of asthma, it is supposed to be expiratory*

*Choice (B) the right answer: Points with: inadequate ttt + stridor which means this is an upper respiratory tract infection. in retropharyngeal abscess, the tongue is pushed upwards and backwards, so the main complication is difficulty breathing.*

*Choice (D): Points against: stridor means an upper not lower respiratory tract infection.*

- 27- A 2 month old boy with a 3 day history of mild fever and runny nose suddenly develops high fever, cough and respiratory distress. Within 48 hours, the patient deteriorated and has developed a pneumatocele and a left sided pneumothorax. What is the most appropriate first action?**

A .I.V. antibiotics

B. Blood gases

C. Chest tube

D. Antipyretics

*Mild fever and runny nose = common cold*

*Suddenly develops high fever, cough and respiratory distress indicates that common cold progress to lower respiratory tract infection, then pneumonia.*

*The patient develops pneumothorax which is very dangerous as it compresses the lung and may lead to cyanosis and shock.*

*1st action to be done is to treat pneumothorax*

*choice (1) : point against: it takes 48 hs to start  $\Rightarrow$  action and this case is emergency*

*Choice (2): point against: it diagnoses acidosis, but this is not the 1st action.*

*Choice (3): point with: chesttube is needed to drain air and must be done immediately.*

*Choice (4): point against: part of the ttt but not the 1st action.*

- 28- An 11 years old child complains of swollen glands in his neck and groin for the past 6 months and increasing cough over the previous 2 weeks. He also reports some fevers, especially at night, and some weight loss .On examination , he has non tender cervical , axillary and inguinal nodes, no hepatosplenomegaly , and other systems are within normal. What is the most appropriate next step ?**

A. Biopsy of anode .

B. Complete blood count and differential.

C. Trial of antituberculous drugs.

D. Chest X-ray.

*11 years old boy with swollen glands in 2 different sites (neck and groin ) for 6 months.*

*He also suffers from chronic cough.( for 2 weeks). With presence of signs of chronic toxemia (night fever & weight loss). No hepatosplenomegaly and this exclude low grade malignancy as lymphoma This is most probably a case of T.B*

*Choice A : Points against ; this is an invasive method not preferred except in case of malignancies and lymphomas and it have been excluded in this case.*

*Choice B : it is not very useful as a next step in investigations for a TB case especially that it didn't include ESR which is useful in case of TB ( as it will be elevated).*

*Choice C : Points against: the drugs is not used except after complete confirmation that this is a case of T.B in order not to harm the patients with the side effects of these drugs.*

*Choice D : (the right choice ) Points with : This is an easy and most appropriate and diagnostic method.*

- 29- An 8 month old infant presents to the pediatrician with a 3 day history of nasal discharge, temperature of a 38.5 C and decreased appetite. Examination reveals a tachypneic infant with audible wheezing. There is flaring of alae nasi as well as intercostals and subcostal retractions .What is the most likely diagnosis ?**

A. Croup.( this is one of the causes of stridor due to viral infection of the air ways as in case of acute laryngitis or tracheobronchitis).

B. Acute bronchiolitis.

C. Acute asthma.

D. Acute epiglottitis

*An 8 month old infant ( common age for upper respiratory tract infection ), with 3 day history of nasal discharge and temp. 38.5C and decreased appetite (from the illness). ( this info. Suggests also upper respiratory tract infection)*

*He is tachypneic ( this grade 1 respiratory distress ), and examination revealed audible wheezes.*

*He is suffering also from intercostals and subcostal retractions ( this is Grade 2 respiratory distress ). And since this retractions are intercostals and subcostal and NOT supraclavicular or suprasternal this excludes case of croup or case of stridor.*

*Choice A : intercostals and subcostal retractions exclude croup and stridor.*

*Choice B : THE RIGHT CHOICE. ( the history and clinical picture above typically fulfill the criteria of this disease ).*

*Choice C : acute asthma is not corresponding to this age group.*

*Choice D : there is no high fever, upper airway obstruction, And there is no path gnomonic features as drawling.*

- 30- A previously well 1 year old infant has had a runny nose and has been sneezing and coughing for 2 days. Two other members of the family had similar symptoms. Four hours ago, his cough became much worse. On physical examination, he is in moderate respiratory distress with nasal flaring, hyperexpansion of the chest and easily audible wheezing without rales (crepitations) by auscultation. Which of the following is the most likely diagnosis?**

A. Bronchitis

B. Viral croup

C. Asthma

D. Epiglottitis

- 31- A 1 year previously healthy male was admitted to the hospital in the last evening, he presented with cough, high fever, and mild hypoxia. CXR revealed right upper lobar consolidation. Approximately 20 hours after hospitalization. the patient deteriorates; developing severe respiratory distress, hypotension, poor perfusion and his color becomes dusky. What is the most likely diagnosis?**

A. Uncomplicated pneumonia

B. Pneumonia complicated by sepsis

C. Pneumonia complicated by heart failure

D. Pneumonia complicated by pneumothorax

- 32- A patient with sore throat and fever by examination red congested tonsils and follicles and pus the mother says he has repeated attacks of this condition possible complications include:
- A. Anemia and thrombocytopenia
  - B. Hematuria and red cell casts
  - C. All of the above
  - D. Non of the above
- 33- Patient 1 year old having rhinorrhea and sneezing for 4 days then developed cough difficulty in breathing examination revealed moderate distress and x- ray shows hyperinflated chest the most likely causative organism is:
- A. Staph aureus
  - B. Haemophilus influenza
  - C. Echo virus
  - D. Respiratory syncytial virus
- 34- A child presented with cough and respiratory distress the doctor diagnosed pneumonia and gave him intramuscular penicillin after that the child developed wheal and redness the immediate management is
- A- Oral antibiotics
  - B- Antihistaminics
  - C- Salbutamol
  - D- IV adrenaline

## **Cardiology**

- 35- A mother brings to the clinic her 4 years old son who began complaining of Rt knee pain 2 weeks ago, is limping slightly, is fatigued and has had a fever 38.2C What is the important diagnostic Lab test to perform?
- A. CBC with differential
  - B. Sedimentation rate
  - C. EBV titre
  - D. Rheumatoid factor
- Choice A: Points with: important to be done in the beginning to exclude major problems like Leukemia and to give hints on other diseases as viral infection, rheumatoid, acute infection.*
- Choice B: Points against: not very useful as it is non-specific*
- Choice C: Points against: better do CBC first for the previous causes above*
- Choice D: Points against: same as C + rheumatoid is mainly in small joints*
- 36- A 12 years old female came to hospital with fever, difficulty in breathing, severe effort intolerance and joint pain which started in the rt. wrist and later involved the

**lt. knee. By examination BP was 90/60, HR was 140, RR was 35 and Temp. was 39 c. Abdominal examination revealed enlarged tender liver. The first action to be done:**

- A. Starting anti failure treatment.
- B. Non steroidal anti-inflammatory drugs administration.
- C. IV fluid administration.
- D. Blood culture .

*1- 12 years old + fever + Joint pain (large joints) + pain moves from joint to joint → rheumatic fever.*

*2. Tachycardia : Heart rate 140 beats per min more than normal (HR is affected by both temperature and age, in this case age is 12, so HR is supposed to be 90/min, the temperature is 39, so it is supposed to increase HR 20/min, that's 110/min.)*

*3. Tachypnea (normal RR is 20 in this age)*

*3- Enlarged tender liver*

*from 1, 2, 3, 4 patient is having heart failure due to rheumatic carditis so we have to start antifailure ttt = diuretics, digoxin..etc..(choice 1, the right choice)*

**37- A previously healthy 8 years old boy has a 3 weeks history of low grade fever of unknown source, fatigue , myalgia and headaches. On examination, he is found to have a heart murmur, petechiae and mild splenomegaly. What is the most likely diagnosis ?**

- A. Rheumatic fever.
- B. Scarlet fever.
- C. Endocarditis.
- D. Tuberculosis.

*8 years old boy having low grade fever of unknown source With heart murmur and petechiae and mild splenomegaly. this case is most probably a case of endocarditis.*

**38- patient with history o congenital heart disease then develop splenomegaly anf petechie which o the following is true**

- A. The prominent organism is haemophilus influenza
- B. Emboli not occur
- C. Echocardiography is very helpul
- D. Antibiotic therapy for 7-10 days

## **Hematology**

**39- A 14 years old boy has sickle cell disease. He presents to the emergency room with increased jaundice, pain in the right upper quadrant with guarding, and a clear chest. CXR is normal. Which of the following tests is more likely to reveal the cause of pain:**

- A. Serum chemistries
- B. CBC with platelets, DD
- C. Ultrasound abdomen ( to exclude pigmentary gall stones)
- D. Upper GIT endoscopy

**40- On a routine well child examination, a 1 year old boy is noted to be pale. He is in seventy-fifth percentile for weight and twenty-fifth percentile for length. Results of physical examination are other normal. His hematocrit is 24%. The answer to which of the following questions is most likely to be helpful in making diagnosis?**

A. what is the child's usual daily diet?

B. did the child receive phototherapy for neonatal jaundice?

C. has anyone in the family received a blood transfusion?

D. what is the pattern and appearance of his bowel movements?

- A normal 1 year old infant, with no jaundice.(not chronic hemolytic anemia)

- He is pale, anemic (hematocrite/3 = Hb) and stunted,

- His height is disproportionate to his weight. Usually in chronic diseases, height is more affected (weight is affected in both acute and chronic, height in chronic only)

- Conclusively, this is probably a dietary problem(

**41- A 7 year old boy was limping for 3 days presented to the surgical department with severe acute colicky abdominal pain. The surgery resident asked for medical consultation for a rash on the back of both lower limbs of the child.**

**The acute abdomen is due to**

A. Rheumatic fever

B. Appendicitis

C. Henoch-schonlein purpura

D. Rheumatoid arthritis

Choice (A): Points with: age + limping

Points against: rash, no other signs of the criteria of rheumatic fever, rheumatic fever will not cause the other associations as acute abdomen.

Choice(B): Points against: other findings(other than acute abdomen) are not related

Choice ©: the right answer Points with: purpura on back of both lower limbs + acute abdomen + limping (This is a vasculitic )

Choice (D): Points against: other findings(other than limping) are not related

**42- A 10 month old female infant is brought to a clinic for routine health evaluation. Her diet consists of ordinary food and a lot of fresh whole milk. On examination, she is pale, hemoglobin is 7.5 gm% otherwise there are no abnormalities. The most likely diagnosis:**

A. Thalassemia

B. Iron deficiency anemia

C. Sickle cell anemia

D. Anemia of chronic illness

•Hemoglobin is 7.5 gm% → anemia

•No abnormalities → not hemolytic anemia

•Fresh whole milk : allergy or iron deficiency anemia( which is very common)

Choice (1) : point against: there's no abnormalities

Choice (2) : the right choice

Choice ⇒ (3) : point against: there's no abnormalities

Choice (4): point against: no ⇒ history of chronic illness.

**43-month-old female infant is brought to clinic for routine health evaluation. Her diet consists of ordinary food and a lot of fresh whole milk. Her weight is 9 kg. On**

examination, she is pale, hemoglobin is 7.5 gm%; and platelet count is high. What should be of most concern about this infant?

- A) Weight
- B ) Caloric intake
- C) Iron levels
- D) The platelet count

44- Patient with history of blood transfusion, come with repeated pain in the hand ..... which of the following is not true:

- A. Short systolic murmur is present
- B. Huge spleen is present
- C. Widening of medullary spaces

45- A 4-year-old previously well boy is brought to clinic because he developed pallor/ dark urine, and jaundice over the past few days. He is taking trimethoprim-sulfamethoxazole for otitis media. Laboratory testing shows low hemoglobin and hematocrit and an elevated bilirubin level. What is the most likely diagnosis?

- A) Hepatitis A
- B) Glucose-6-phosphate dehydrogenase deficiency
- C) Drug-induced hepatitis
- D) Galactosemia

### Gastroenterology

46- A 12 months old boy presents to the emergency department with a 6 hour history of vomiting, colicky abdominal pain, and irritability. On physical examination a sausage like mass is palpable in the right upper quadrant of the abdomen. What is the most appropriate next step in management?

- A. Order a CT scan of the abdomen
- B. Order a barium swallow
- C. Obtain a surgical consultation
- D. Follow up examination after 4 hours

*Choice A : Points against: time and money wasting + not method of choice, ultrasound is better.*

*Choice B: Points against: shows till duodenum while obstruction is in upper Rt quadrant + baby suffers from vomiting*

*b. If we were to use this method, we'd use barium enema*

*Choice C: (the right choice)*

*a. Points with:*

*1. Age of boy, intussusception usually occurs between 6 months to 3 y.o. (usually after gastroenteritis)*

*2. Sausage like mass ( CANT possibly be liver)*

*3. Since known intussusception, early management is very easy [reduction by pressure] using air*

*Choice D: it is emergency , no need to waste time*

- 47- A 5-week-old boy presents to clinic with vomiting for the last 2 weeks. He is not gaining weight properly. The mother states the vomiting is projectile, non-bilious but she feels that he has a good suck and swallow. Examination revealed an olive-like mass felt to the right of umbilicus .What is the most likely diagnosis?**
- A. Early gastroenteritis
  - B. Sepsis
  - C. Faulty finding technique
  - D. pyloric stenosis
- 48- 3week child coming with vomiting ,non bile staining .loss of weight ..... which of the following present in examination :**
- A. Abdominal distention
  - B- Abdominal tenderness
  - C- Decrease intestinal sound
  - D- Olive mass in the upper quadrant
- 50- A 4 month infant is brought to the pediatrician by his mother because he is not feeding well. Examination of the mouth reveals curd like plaques on the tongue and buccal mucosa that don't scrape off easily. Which of the following sites may be involved with this condition ?**
- A. Eyes
  - B. Scalp.
  - C. Perineum.
  - D. Umbilicus.
- 51- An 18 months old boy came to the emergency department with rapid respiration, drowsiness. He had a history of vomiting and diarrhea for 3 days before the onset of his condition. By examination HR was 160, RR was 60, Temp. was 38.5 and Bp was 60/40. He had delayed capillary refill. What is the most likely action to be done?**
- A- Chest x-ray.
  - B- Giving oral ttt and follow up.
  - C- Administration of IV fluids.
  - D- Blood gas analysis.

*This is typically a case of moniliasis and perineum can be affected also by moniliasis.*

*Vomiting and diarrhea = ongoing losses of fluids and electrolytes*

*Increased HR (out of proportion with age and fever), RR, and decreased BP, delayed capillary refill= shock*

*Choice 1:points against: it is an emergency + no need for it*

*Choice 2:points against: it is an emergency*

*Choice 3(the right choice):points with: shock is an emergency with dramatic response to IV fluids*

- 52- A 5- year- old boy who was previously healthy has a 1-day history of low grade fever, colicky abdominal pain, and a skin rash on his buttocks. On examination, no abdominal tenderness, stool is positive for blood and platelet count is normal.**

What Is the most likely diagnosis?

- A. Anaphylactoid purpura
- B. Meningococcemia
- C. Leukemia
- D. Hemophilia A

## **Nephrology**

- 53- A 4 month old infant presents with fever and poor feeding. Examination revealed moderate dehydration, poor perfusion, and screaming. The WBCs count is elevated with shift to the left. Urine analysis of a catheterized specimen reveals red blood cells, white blood cells, and scant bacteria. What is the most appropriate course of treatment?**

- A. Fluid restriction.
- B. Surgical intervention
- C. I.V. antibiotics therapy
- D. Wait for culture results

*Poor feeding in children means loss of function and leads to dehydration.*

*Poor perfusion is dangerous as it may lead to circulatory failure.*

*Screaming in children indicates pain ♣*

*Increased WBCs count with shift to the left = bacterial infection.*

*A catheterized specimen ( to avoid contamination) reveals red blood cells, white blood cells, and scant bacteria = Urinary tract infection*

*Diagnosis :septic shock on top of UTI*

*Choice (1): point against: the infant is dehydrated; fluid restriction will worsen the condition.*

*choice (2) : point against: not indicated*

*Choice (3): right choice: as this case is a septic shock which may be complicated and cause death, so must be treated immediately.*

*choice (4) : point against : takes time, it should be done later after the ⇒patient start receiving I.V. antibiotics then change the treatment according to culture results.*

- 54- A 9 year old child comes to the hospital with an acute onset of generalized convulsions and disturbed conscious level. the parents did not report any similar neurological trouble beforehand. On examination, HR was 70/min, RR is 20/min what is the first action to do after control of convulsions?**

- A. Blood gases
- B. Blood pressure measurement
- C. CT brain
- D. Fundus examination

*A 9 years old child with normal HR and RR, suffers from acute onset of convulsions and*



*disturbed consciousness, you have to make sure it is not hypertensive encephalopathy as it is a very common cause so the right answer is choice (2) BP measurement. So in any case of convulsions in a child specially if without similar history, the first action is to give anticonvulsant, then measure BP, then do the other investigations.*

- 55- An 8 year old boy comes complaining of bedwetting for the past 2 weeks. He has previously been continent. On examination, his height is below 5th percentile. His Hb is 6.5% what is the most important next step**
- A. Check blood sugar
  - B. Give oral iron
  - C. Try fluid restriction and rewarding for dry nights
  - D. Check BUN and creatinine
- Chronic renal failure is one of the most common causes of stunted growth and anemia*
- 56- A 4 year old boy, whose past medical history is positive for 3 UTI. now presents with BP 135/90, renal scan shows bilateral renal scars. What should have been done to prevent this situation:**
- A. Give antibiotics for 3-5 days for each UTI
  - B. Do cystourethrography and give prophylactic antibiotics accordingly
  - C. Abd U/S every 3 months
  - D. Prescribe urinary effervescent
- Renal scars by scan indicates fibrosis from repeated inflammations. (pyelonephritis) this caused the high blood pressure. Choice (2): is the right answer .Repeated UTI means that there is an underlying predisposing factor that need investigations*
- 57- A 16-month-old girl is brought to medical attention because of irritability poor feeding, and temperature up to 39.4 C. Careful history and physical examination fail to disclose any identifiable cause of her fever. There is some degree of `abdominal tenderness on palpation. What is the most likely diagnosis?**
- A. Gastroenteritis
  - B. . Pneumonia
  - C. Otitis media
  - D. Urinary tract infection

## **Neurology**

- 58- A 6-month-old boy is brought by his mother because he is floppy when placed in a sitting position. He does not seem to be interested in reaching for toys. At 4 month visit, his head support was weak and had a persistent Moro reflex. What is the most likely diagnosis?**
- A . Duchenne muscular dystrophy
  - B . Cerebral palsy
  - C . Brain tumor

D . Meningitis

- 59- A 9 year old child suffers from an acute onset weakness which initially started in the lower limbs and was preceded 3 weeks earlier by a respiratory tract infection. On examination there is hypotonia and hyporeflexia of both lower limbs. There is no history of convulsions.

The most likely diagnosis is;

- A. Brain tumour
- B. Poliomyelitis
- C. Guillan-barre syndrome
- D. Werdnig hoffman syndrome

- Initially started = there is progression

- Hypotonia + hyporeflexia = lower motor neuron lesion

- Both LLs = symmetrical disease

Choice (1): Points against: it is an acute disease, no signs of increased ICT, preceded by viral infection.

Choice (2): Points against: it is symmetrical, ascending unlike polio

Choice (3): the right answer Points with: viral infection followed by symmetrical ascending hypotonia and hyporeflexia.

Choice (4): Points against: werdnig hoffman syndrome is an autosomal recessive syndrome that present at birth.

- 60- About 12 days after a mild upper respiratory infection, a 12-year-old boy complains of weakness in his lower extremities. Over several days, the weakness progresses to include the trunk. On examination, deep tendon reflexes are lost in lower extremities. Spinal fluid studies are notable for elevated protein only. What is the most likely diagnosis?

- A. Botulism
- B. Post-diphtheritic paralysis
- C. Werdnig Hoffmann disease
- D. Guillain-barre syndrome

- 61- A child present with irritability and neck rigidity and when CSF analysis done it showed clear CSF fluid and WBCs count 150/HPE, 30% are polymorphs and 60% are lymphocytes , The diagnosis is:

- A. Viral meningitis
- B. Bacterial meningitis
- C. Brain tumor
- D. TB meningitis

- 62- 10 month child with high temperature with sore throat.non toxic. after convulsion was alert &active which will you do for him:

- A. CSF
- B. ECG

- C. CT  
D. Reassurance

### **Endocrinology**

- 63- A 5-month-old girl presented with history of constipation and delayed developmental milestones. She had prolonged physiological jaundice. On exam, she is hypoactive, has an open mouth with large tongue. Other systemic examinations are within normal.  
What is the next step in management?  
A. Checking T4 and TSH  
B. Checking serum bilirubin  
C. Doing CT scan of head  
D. Follow up after 4 weeks  
*Constipation, delayed developmental milestones, being hypoactive open mouth with large tongue, prolonged physiological jaundice = hypothyroidism*
- 64- The mother of a 2 week old infant reports that her baby sleeps most of the day, she has to awaken her every 4 hours to feed and the infant has persistently hard stool. On examination, HR 75/m and temp. Is 35 C, baby is still jaundiced and has a distended abdomen and umbilical hernia. What is the most appropriate diagnostic test?  
A. Abdominal ultrasound.  
B. Blood count and blood culture.  
C. Total and direct serum bilirubin.  
D. T4 and TSH.
- 65- A 7 year old boy arrives at the emergency department, complaining of rapid breathing and vomiting, dating 3 days ago, he has been receiving IM antibiotics for 3 days with no improvement. On examination, he has rapid deep breathing with RR 60/min, HR 90/min. chest x-ray was normal. What is the next investigation to do?  
A. CT chest  
B. Upper GIT endoscopy  
C. Echocardiography  
D. Blood gases  
*- Normal X ray = normal lungs and heart  
- Tachypnea with no auscultatory findings, no fever, no abnormality, rapid DEEP breathing, most probably a case of acidosis with compensatory hyperventilation.  
- Vomiting is due to irritation from acidosis ( may be diabetic ketosis)*
- 66- A girl presents with frequency of urine difficult breathing. the physician suspects new onset diabetes and he performs urine analysis and found glucose and ketones in urine  
the blood gas of this patient is likely to be  
A- pH: 7.05 CO2: 36 HCO3: 18 ( it is mixed )  
B: pH: 7.36 CO2: 37 HCO3: 22  
C: pH: 7.45 CO2: 50 HCO3: 11  
D: pH: 7.2 CO2: 25 HCO3: 12 (metabolic acidosis)