

Case 1

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 :

- a. Points against: time and money wasting + not method of choice, ultrasound is better.

⇒ Choice B:

- a. 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, intussuception usually occurs between 6 months to 3 y.o. (usually after gastroenteritis)
- 2. Sausage like mass (CANT possibly be liver)
- 3. Since known intussuception, early management is very easy [reduction by pressure] using air

⇒ Choice D:

- a. Points against: sausage like mass suggests intussuception, if the last sentence was not in the case this would have been the right choice [hospital admission with regular check up every hour]
- b. If a case of intuss. Is left without ttt, it proceeds to gangrene and death, with management necessitating surgical intervention, which would not have been required if managed early (reduction by pressure using air)

Case 2

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

Explanation of the case: the bulging fontanelle (full) = increased ICT. Fever, vomiting and irritability = infection.

Pediatrics problem solving

There isn't neck rigidity because this sign and others like brudzinski's..etc.. are non-dependable signs in children because of the open fontanelle which offers a relief of the increased tension.

N.B.: Rule:

An infant (a)febrile (b)vomiting (c)irritable = admission to the hospital.

N.B.: if the fontanelle is depressed = dehydrated infant

- ⇒ Choice A: can never be a choice in anyway
- ⇒ Choice B:
 - a) Points against: oral = management at home which is unacceptable in this case + amoxicillin is not the drug needed.
- ⇒ Choice C: [the right answer]
 - a) Points with: the infant needs to be admitted for CT, CBC, culture, IV antibiotics, follow up to avoid complications as convulsions.
- ⇒ Choice D:
 - A. Points against: patient must be admitted, so any choice other than IV antibiotics suggested by parents who might wanna go back home is unacceptable.

Case 3

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

- ⇒ Choice A:
 - a) Points against: Fever is followed in 2 days by rash + less aggressive prodroma (miserable with) + sore throat [it is a strept infection]
- ⇒ Choice B:
 - a) Points against: the disease is obviously of infectious etiology
- ⇒ Choice C:
 - a) Points against: presents with fever of low grade followed 1 day later by rash
- ⇒ Choice D: [the right answer]
 - a) Age + aggressive prodroma + 4 to 5 days between fever and rash appearance (showing runny nose and cough) + conjunctivitis + 38.5 C.
 - b) The rash covers the entire body eventually.

N.B. German measles is excluded as the rash in it never appears in the whole body at the same time,i.e. when the rash reaches certain parts it disappears in other.

Case 4

A mother brings to the clinic her 4-year-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

Explanation of the case:

- Patient suffers from arthritis and not arthralgia.
- Difference between them: arthralgia is subjective pain (patient says he is in pain). But arthritis is detected by swelling / limitation of movement as in limping
- Rt (unilateral) knee pain = not rheumatic fever i.e. not polyarthritis
- 2 weeks = not trauma

⇒ Choice (A):[the right answer]

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 imfection, rheumatoid, acute infection.

b) Leukemia in CBC: lymphocytic count increased, anaemia and thrombocytopenia.

⇒ Choice (B):

a) Points against: not very useful as it is non-specific

⇒ Choice (C):

a) Points against: better do CBC first for the previous causes above

⇒ Choice (D):

a) Points against: same as C + rheumatoid is mainly in small joint

Case 5

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

⇒ The right choice is (B) 5 months

Explanation of the case:

- Move from side to side=1month
- Smiles=2 months
- Lift his head 45 degrees=3rd month
- Sit without support= 4th/5th month

Pediatrics problem solving

N.B.: if the case included certain conditions delaying growth i.e. neurological conditions or rickets, the answer would be different.
>> If rachitic: sits supported when 9 months.

Case 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

Explanation of the case:

- Infant is recently short of breath + high heart rate not in proportion with age nor temperature + high RR + hepatomegaly = heart failure
 - Heart failure triad:
 - o Tachypnea
 - o Tachycardia
 - o Tender hepatomegaly
 - His temperature is normal ($37.4 - 0.5 = 36.9$)
- ⇒ 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 (e.g. rubella is associated with many other problems, and many other congenital infections as well)

Case 7

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

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Key points:

- 3 days old: physiologic jaundice occurs at this age
 - Both mom and baby have O+ve blood: not incompatibility
 - Hemoglobin 17, reticulocyte 1.5%: this is normal, so no hemorrhage nor hemolysis occurred [no anemia]
 - N.B.: if hemoglobin was 11.5 for example, the right answer would be hemolytic anemia.
 - Platelete count is normal: platelete count decreases in sepsis. So this isn't sepsis
 - Peripheral smear shows no abnormality: normal shape of blood cells, so no spherocytosis.
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- ⇒ Choice (A): points against: no hemolysis evident by hemoglobin and reticulocyte count
 - ⇒ Choice (B): points with: age, indirect hyperbilirubinemia [as the direct bilirubin is not more than 20% of total bilirubin], didn't cross maximum level of total bilirubin in physiological jaundice which is 12, exclusion of other causes.
 - ⇒ Choice (C): points against: no sepsis evident by normal platelete count
 - ⇒ Choice (D): point against: normal peripheral smear, no hemolysis
 - ⇒ Choice (E): not direct hyperbilirubinemia

Case 8

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 infantum
- D. Chicken pox

Explanation of the case:

- Short self limiting convulsions = due to fever.
 - The girl had an incubation period of 4 days showing high fever, but without any localizing sign (without 3C of measles: coryza, cough and conjunctivitis). then she shows red maculo-papular rash starting on her trunk. When the rash appeared, the fever subsided.
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- ⇒ Choice (A): points against
In measles, there should be localizing sign (3C), and the fever rash relation-ship is different, the fever should rise markedly with appearance of rash on the 4th/5th day of the prodroma, rash starts on the face
 - ⇒ Choice (B): points against:
Fever should increase with appearance of rash.
 - ⇒ Choice (C): the right answer
Where prodroma is 4 days showing high fever, rash appears after 4 days, first on trunk, fever subsides
 - ⇒ Choice (D):
Rash isn't maculopapular

Case 9

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 (C): the right answer

- Points with: purpura on back of both lower limbs + acute abdomen + limping
[This is a vasculitic syndrome]

⇒ Choice (D):

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

Case 10

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

Explanation of the case:

A fully immunized child, so most probably she doesn't have pneumonia due to hemophylus 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:

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- 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 resp tract infection.

Case 11

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 antifailure ttt.
- B. NSAID administration.
- C. IV fluid administration.
- D. Blood culture .

Explanation of the case:

Key points:

1. 12 years old + fever + Joint pain (large joints) + pain moves from joint to joint = most probably rheumatic fever.
2. HR 30 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)
4. blood pressure is within normal, but we do not depend on this sign in children from 2, 3 and 4, patient is having heart failure (an emergency)
So we have to start antifailure ttt = diuretics, digoxin...etc. (Choice 1)
Choice 2: points Against: we are not sure of diagnosis + we've to start antifailure ttt before anything else

Case 12

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?

- A. Oral Amoxicillin
- B. Paracetamol.
- C. Multivitamin.
- D. Acetylsalicylic acid.

Explanation of the case:

- ⇒ A mild infection, therefore most probably viral not bacterial infection. So exclude choice (1) oral amoxicillin.

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- ⇒ Child 3 years old with mild throat infection most probably viral, so don't give choice (4) acetylsalicylic acid as it may cause Reye's syndrome. It is acute fatty hepatocerebralopathy with peak incidence in children ranging between 6-12 years old, occurs with viral infection e.g. influenza, measles
- ⇒ Child is feverish, vitamins may increase load (bacteria can use some vitamins/iron causing more problems) so exclude choice (3)
- ⇒ All the child needs in this case is supportive measures like choice (2) paracetamol. Viral infections resolve spontaneously in a few days.

Case 13

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.

Explanation of the case:

- 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: points with: shock is an emergency with dramatic response to IV fluids
 - ⇒ Choice 4: points against: what happens clinically is (1) canula (2) take a blood sample (3) IV fluids. But we DO NOT wait for the results of blood gases, we start IV fluids at once, then if results show acidosis, we treat it.

Case 14

A 4week-old, fullterm, and 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

Explanation of the case:

- 15 days = persistent jaundice

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- 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: it Is not septic, nor breast milk + Direct bilirubin is more than 20% of total bilirubin + hepatomegaly

N.B.: it is 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 would have been indirect (unconjugated) bilirubinemia with

Case 15

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 90th 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): 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): occurs on the second week, the child would not be on the 90th percentile, would not be able to eat every 2 to 3 hours.

⇒ Choice (C): points with: high dose formula, high amount (every 2-3 hours).

⇒ Choice (D): there are no inflammatory symptoms or signs, no diarrhea.

Case 16

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

Explanation of the case

- Constipation, delayed developmental milestones, being hypoactive open mouth with large tongue, prolonged physiological jaundice = hypothyroidism

⇒ Choice (A): the right choice

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Points with: manifestations of hypothyroidism. In any case, u've to investigate for treatable causes first.

- ⇒ Choice (B): there's no use of checking bilirubin + it is physiological.
- ⇒ Choice (C): there's no use of CT scan, even if there was brain damage, it's not treatable
- ⇒ Choice (D): the condition cant be delayed

Case 17

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

- ⇒ Choice (A): points against: occurs at 6 to 7 years old
- ⇒ Choice (B): is the right choice: atonic CP

Points with: floppy, with delayed developmental milestones, persistent primitive reflexes.

- ⇒ Choice (C): brain tumor usually takes more duration in older ages.
- ⇒ Choice (D): no signs of inflammation,

Case 18

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

- A. rickets
- B. marasmus
- C. obesity
- D. kwashiorkor

Explanation of the case:

- Low protein, high carbohydrates in diet, normal calories.

⇒ So the answer is (4) kwashiorkor

N.B. if the case included normal proteins in calories, the answer would be obesity.

Case 19

The mother of a 4-month-old boy complains her child still can't support his head. On examination the child has a flat occiput, and a transverse palmar 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:

- A. ITP
- B. G6PD deficiency
- C. leukemia
- D. pyloric stenosis

Explanation of the case:

- The child shows signs of Down's syndrome (delayed milestones, flat occiput, and transverse palmar crease) with a VSD. One of the common complications is leukemia, that's why u've to examine spleen.

⇒ The right answer is (3) leukemia

Case 20

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. werding hoffman syndrome

Explanation of the case:

Key words:

- 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: werding hoffman syndrome is an autosomal recessive syndrome that appears at the age of 40 years old. It affects anterior horn cells causing their degeneration, associated with repeated chest infection, bad prognosis.

Case 21

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
- D. upper GIT endoscopy

Explanation of the case:**Keywords:**

- guarding = severe tenderness
- normal CXR = normal lungs AND heart
(i.e. not secondary congestion in liver)

⇒ Choices (1) and (2):

Points against: it's already clear that he has sickle cell anemia; most probably this is a crisis. There is increased jaundice (high bilirubin)

⇒ Choice (3): the right answer

Point with: to detect vaso-occlusive crisis

⇒ Choice (4):

Point Against: will not tell the cause of pain.

Case 22

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?

- A. obtain CBC and differential
- B. perform lumbar puncture
- C. chest x-ray
- D. place infant under warmer
- E. administer oxygen

Explanation of the case:

- premature, underweight,
- high HR, RR
- low temperature
- with normal lungs and heart,
- Hypothermia which is a common presentation in prematures causes all these findings.

⇒ So the right answer is (4) place infant under warmer

Case 23

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?

Explanation of the case:

- A normal 1 year old infant, with no jaundice.(not chronic hemolytic anemia)
- He is pale, anemic (hematocrite/3 = Hb) & 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

⇒ So the right answer is Choice (1)

⇒ Choices (2) and (4) are not valuable in the diagnosis.

Case 24

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

Explanation of the case:

- normal CXR = 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.

⇒ The right answer is choice (4) blood gases

⇒ All the other answers are non-valuable investigations.

Case 25

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

Explanation of the case:

- 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.
- ⇒ All the other investigations are correct but the priority is to BP measurement.
- So in any case of convulsions in a child especially if without similar history, the first action is to give anticonvulsant, then measure BP, then do the other investigations.

Case 26

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

Explanation of the case:

- The boy is 8 years old, he was continent (able to control urination), but for the last 2 weeks, he started bedwetting, this means this is secondary enuresis.
- He's having severe anemia, very short(5th percentile)
- Since height is affected more in chronic problems [more than 6 months], this means a chronic condition caused the enuresis problem.
- ⇒ Choice (1):point against:
Causes polyuria, but not associated with anemia. Also DM will not present as a chronic disease in this age, without other manifestations like DKA
- ⇒ Choice (2): point against:
 - this is not dietary deficiency,
 - It is not the most important step in management.
 - Iron deficiency will not cause the child to be on the 5th percentile
- ⇒ Choice (3):point against:

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in ttt of primary enuresis

⇒ Choice (4): This is the right choice

- [Blood Urine nitrogen = urea, and creatinine] = kidney function tests
- Chronic renal failure is one of the most common causes of stunted growth
- Kidney produces erythropoietin, functions in homeostasis and PH system, so in chronic failure it causes anemia.

N.B. if the case was a case of 2ry enuresis only without low Hb level, the answer would be blood sugar,

But in this case, very low Hb recommends kidney function tests to detect renal failure.

Case 27

A 1 year old infant is complaining of delayed sitting and repeated chest infection, on examination there is prominent costo-chondral 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:

- A. anorexia
- B. vomiting
- C. oliguria
- D. nephrocalcinosis

Explanation of the case:

Multiple injections caused hypervitaminosis D, so the right answer is (3) oliguria as hypervitaminosis D causes polyurea (loss of fluids → constipation).

Case 28

New born baby shortly after birth, noted to have respiratory distress. The infant has diminished breath sounds on the left, the apex is on the right side. Has scaphoid abdomen, CXR was done and surgical consultation was advised

Which of the following is the most likely diagnosis at this point?

- A. congenital diaphragmatic hernia
- B. congenital heart disease
- C. RDS
- D. transient tachypnea of the newborn

Explanation of the case:

- diminished breath sounds on the left + the apex is on the right side = shifting of mediastinum
- in RDS, there is Bilateral diminished breath sounds

⇒ choice (1): the right choice

Points with: shortly after birth suggests a congenital disease + scaphoid abdomen + shifting of mediastinum

Case 29

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 Abs accordingly
- C. abdominal U/S every 3 months
- D. prescribe urinary effervescent

Explanation of the case:

- Renal scars by scan indicate fibrosis from repeated inflammations. (pyelonephritis)
This caused the high blood pressure.

⇒ Choice (2): is the right answer

Points with: this is an investigation where a dye is injected through urethra, it is done to detect reflux at the level of the ureters when joining the bladder. This occurs in a congenital disease where when the bladder contracts to evacuate, the ureters are not completely compressed allowing reflux of urine. The reflux causes repeated infections. So detection of this disease and surgical correction was essential to prevent this condition.

Case 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

Explanation of the case:

- An infected (family members have the infection too) child, most probably viral (Mild disease).

⇒ Choice (1): Is the right answer

⇒ Choice (2): points against:

Viral croup is oedema at the level of larynx and vocal cords, this causes audible inspiratory sound without auscultation (stridor)

⇒ Choice (3): points against:

Infectious nature, wheezes are not expiratory, not in a 1 year old infant

⇒ Choice (4): points against:

Will not cause any of the mentioned symptoms and signs

Case 31

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

Explanation of the case:

- 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 hrs to start action and this case is Emergency
- ⇒ Choice (2): point against: it diagnoses acidosis, but this is not the 1st action.
- ⇒ Choice (3): point with: chest tube is needed to drain air and must be done Immediately
- ⇒ Choice (4): point against: part of the ttt but not the 1st action.

Case 32

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?

- A. Immunization state
- B. Caloric intake
- C. Iron levels
- D. 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

Case 33

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. Sick cell anemia
- D. Anemia of chronic illness

Explanation of the case:

- 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.

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