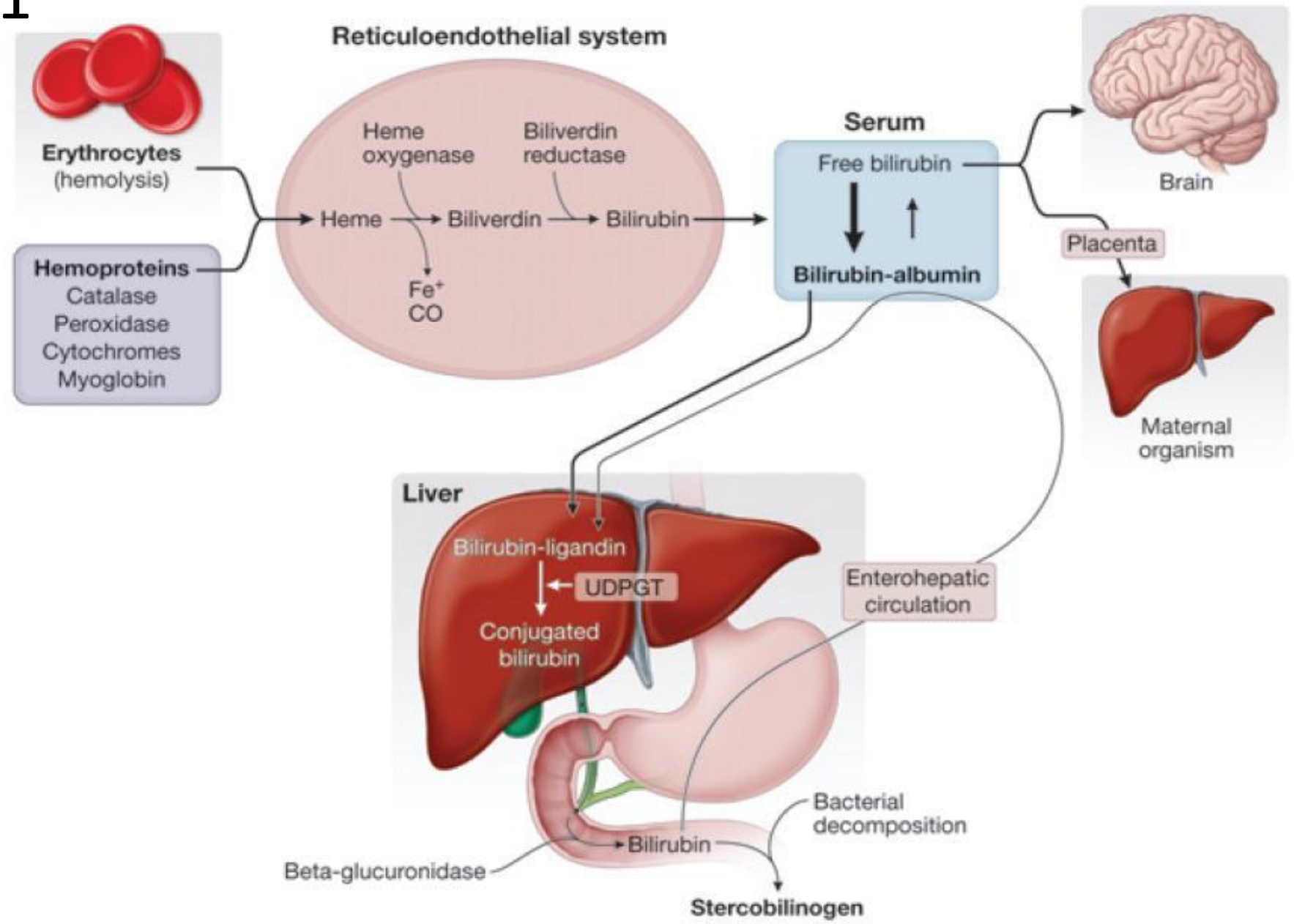
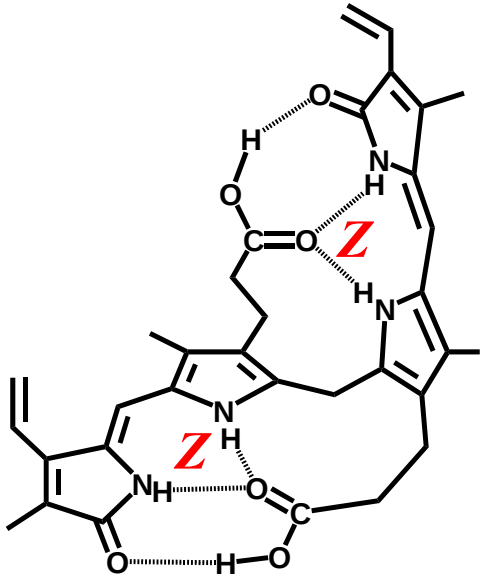
Station 10

1

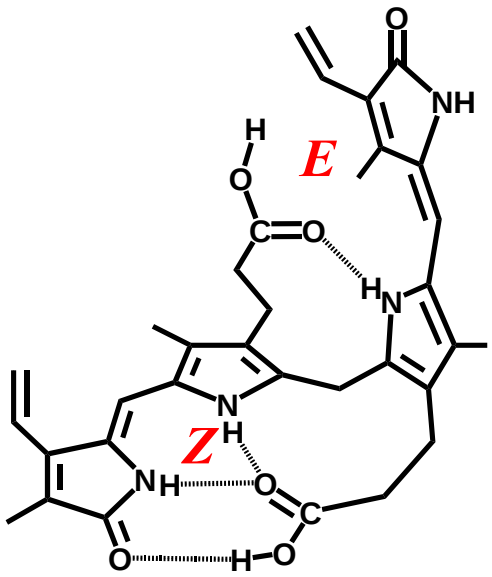

Reticuloendothelial system
Erythrocytes
(hemolysis)
Hemoproteins
Catalase
Peroxidase
Cytochromes
Myoglobin
Heme oxygenase
Biliverdin reductase
Heme
Biliverdin
Bilirubin
Fe+
CO
Serum
Free bilirubin
Bilirubin-albumin
Brain
Placenta
Maternal organism
Liver
Bilirubin-ligandin
UDPGT
Conjugated bilirubin
Enterohepatic circulation
Bacterial decomposition
Bilirubin
Beta-glucuronidase
Stercobilinogen

2

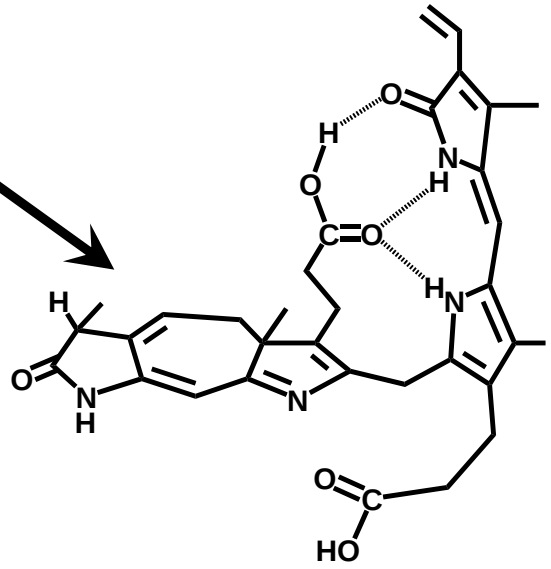


z,z isomer

?



z,e isomer

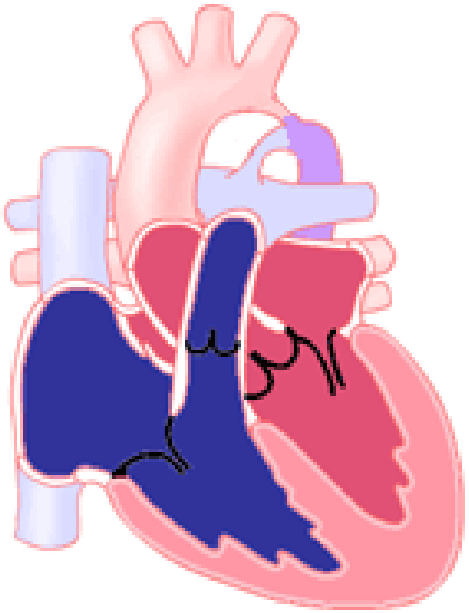


Lumirubin

3

4

A



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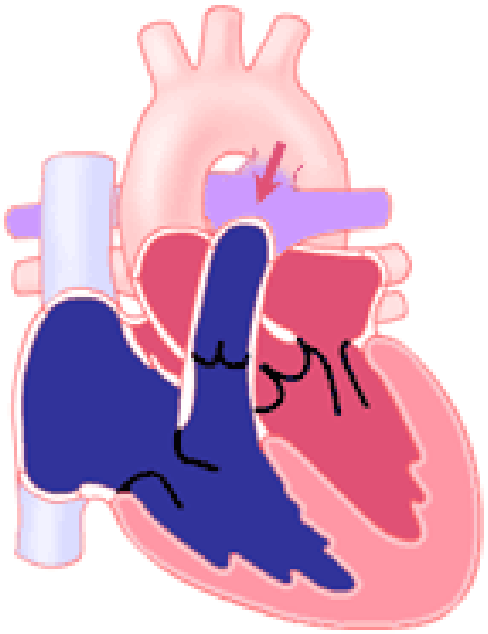
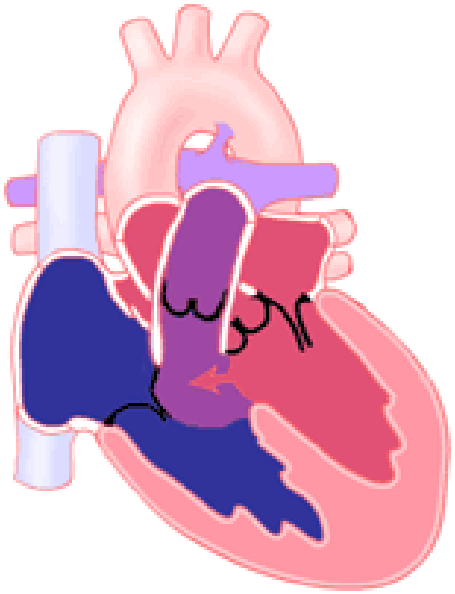
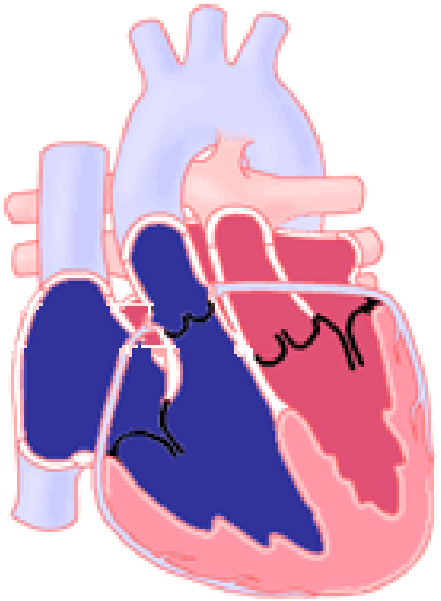


C



D



Student ID No. …….

Station 10

Paediatrics PC

Remember to fill in your Student ID No.

1. This slide (slide 1) shows a schema of bilirubin metabolism. Of the processes/ reactions shown, which 3 – three – contribute most to the common occurrence of jaundice in the newborn period?

   _____

   _____

   _____

2. Slide 2 shows 3 – three – isomers of bilirubin. The question mark **(?)** represents the most common treatment for jaundiced infants.

   2a. Which treatment is that?

   _____

   2b. How do the bilirubin isomers shown in slide 2 differ regarding their solubility?

   _____

   2c. What role do these differences play for the effect of the therapy you mentioned in 2a?

   _____

3. How would you describe the posture of the infant shown in slide 3?

   _____

Student ID No…….

4. This slide shows 4 images of the heart of a newborn (A-D), each illustrating a congenital heart defect.

4a. Which defects are these?

A_____ B_____

C_____ C_____

4b. Which of these defects presents in the newborn with generalized cyanosis? (Circle the right answer).

A B C D

Examiner's sheet

Student ID No.…….

Examiner ID……..

Station number 10

	Points	Score
Question no. 1 This slide (slide 1) shows a schema of bilirubin metabolism. Of the processes/ reactions shown, which 3 – three – contribute most to the common occurrence of jaundice in the newborn period? **Increased bilirubin production through breakdown of red cells** **Reduced excretory capacity in the liver** **Increased enterohepatic circulation**	 2 2 1	
Question no. 2 Slide 2 shows 3 – three – isomers of bilirubin. The question mark **(?)** represents the most common treatment for jaundiced infants. 2a. Which treatment is that? **Phototherapy** 2b. How do the bilirubin isomers shown in slide 2 differ regarding their solubility? **z,e and lumirubin are more polar (or water soluble) than z,z** 2c. What role do these differences play for the effect of the therapy you mentioned in 2a? **Increased polarity/solubility facilitates excretion in bile and urine without need for conjugation**	 3 2 2	

Station 10 cont. **Page 2**

Student ID NO……

Examiner ID……..

Question no. 3 3. How would you describe the posture of the infant shown in slide 3? **Back and neck arching backwards (opisthotonos and retrocollis)**	2	
Question no. 4 4. This slide shows 4 images of the heart of a newborn (A-D), each illustrating a congenital heart defect. 4a. Which defects are these? **A Coarctation of the aorta** **B Patent ductus arteriosus (PDA)** **C Ventricle septum defect (VSD)** **D Transposition of the great arteries (TGA)** 4b. Which of these defects presents in the newborn with generalized cyanosis? **D Transposition**	 2 2 2 2 2	

Max 24 points **Total score:…….**

Answer paper

Examination: MEDSEM9_H13_ORD

Sidene 15, 16 og 17 er tatt ut da stasjon 17 utgår/er strøket.

Assessment: MEDSEM9_STATION14_H13_ORD

Part 1:

You are on call in the emergency department. A refugee family from Abkhazia brings in their 5-year-old son. They believe he has an upper airway infection and the child sits on his mother's lap. You catch a glimpse of his toes below the wool blanket.

Question 1:

The image shows a finding primarily associated with disease in two – 2 – organ systems. Which?

- ☐ Liver
- ☐ Kidneys
- ☐ Urinary tract
- ☐ Lungs
- ☐ Heart
- ☐ Brain
- ☐ Peripheral nervous system
- ☐ Endocrine organs
- ☐ Musculo-skeletal system
- ☐ Skin

Answer:
Lungs
Heart

Part 2:

You are on call in the emergency department. A refugee family from Abkhazia brings in their 5-year-old son. They believe he has an upper airway infection and the child sits on his mother's lap. You catch a glimpse of his toes below the wool blanket.

Your eager and helpful nurse informs you that she has already obtained routine blood samples in order to save time. She quotes the following results (normal values in parentheses):
Haemoglobin 18.9 g/dL (11.0-14.5 g/dL) , Haematocrit 62 % (34-40%), Leucocytes 7.2 x10^9/L (5-20 x10^9/L), Thrombocytes 315 x10^9/L (100-450 x10^9/L), CRP < 5 mg/L (<5 mg/dL), Sodium (Na) 134 mmol/L (135-146 mmol/L), Potassium (K) 4.6 mmol/L (3.5-5.0 mmol/L), Albumin 36 g/L (35-52 g/L), Creatinine 42 µmol/L (10-60 µmol/L).

Question 1:

This is your interpretation:

- ○ Probably technical error
- ○ Normal for age
- ○ Dehydration

- May indicate heart or lung disease
- Sign of renal disease

Answer:
May indicate heart or lung disease

Part 3:

You are on call in the emergency department. A refugee family from Abkhazia brings in their 5-year-old son. They believe he has an upper airway infection and the child sits on his mother's lap. You catch a glimpse of his toes below the wool blanket.
Your eager and helpful nurse informs you that she has already obtained routine blood samples in order to save time. She quotes the following results (normal values in parentheses):
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Question 1:

Which pathophysiological mechanism in chronic heart or lung disease may cause such values?

Answer:
Hypoxemia/low oxygen content. Insufficient oxygen causes a compensatory increase in Hct to improve oxygen transport capacity.

Question 2:

The child's body size is below the 2.5 percentile for both height and weight. You confirm the clubbing of fingers and toes and palpate the edge of the liver at the costal margin. There is a loud systolic murmur, and you palpate normal peripheral pulses. On auscultation of the lungs you hear some sounds that you think may be transmitted from the upper airways because of nasal discharge, and in addition, perhaps also some crackles.
Which three – 3 - examinations do you request?

- ☐ Abdominal ultrasound
- ☐ Cerebral CT scan
- ☐ Chest X-ray
- ☐ Echocardiography
- ☐ Spirometry
- ☐ X-ray of hand skeleton
- ☐ Gluten antibodies
- ☐ Pulse oximetry
- ☐ Chromosome test

Answer:
Chest X-ray
Echocardiography
Pulse oximetry

Part 4:

You are on call in the emergency department. A refugee family from Abkhazia brings in their 5-year-old son. They believe he has an upper airway infection and the child sits on his mother's lap. You catch a glimpse of his toes below the wool blanket.
Your eager and helpful nurse informs you that she has already obtained routine blood samples in order to save time. She quotes the following results (normal values in parentheses):
Haemoglobin 18.9 g/dL (11.0-14.5 g/dL) , Haematocrit 62 % (34-40%), Leucocytes 7.2 $x10^9$/L (5-20 $x10^9$/L), Thrombocytes 315 $x10^9$/L (100-450 x109/L), CRP < 5 mg/L (<5 mg/dL), Sodium (Na) 134 mmol/L (135-146 mmol/L), Potassium (K) 4.6 mmol/L (3.5-5.0 mmol/L), Albumin 36 g/L (35-52 g/L), Creatinine 42 µmol/L (10-60 µmol/L).
The child's body size is below the 2.5 percentile for both height and weight. You confirm the clubbing of fingers and toes and palpate the edge of the liver at the costal margin. There is a loud systolic murmur, and you palpate normal

peripheral pulses. On auscultation of the lungs you hear some sounds that you think may be transmitted from the upper airways because of nasal discharge, and in addition, perhaps also some crackles.

Question 1:

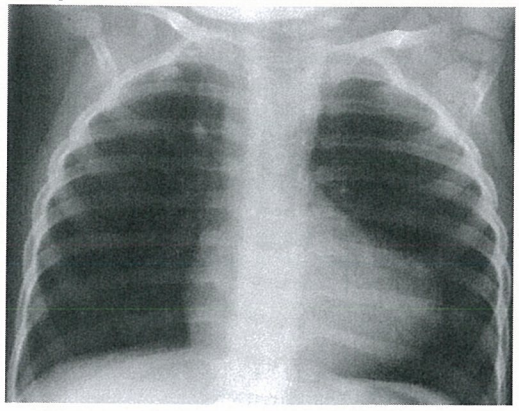
Which pathophysiological mechanism would explain a true lower pulse oximetry value in a foot than in the right hand? (Max 2 lines)

Answer:

Right-to-left shunting through an open ductus arteriosus.

Question 2:

Pulse oximetry showed 83% in the right hand and foot. The X-ray description says: "Enlarged boot-shaped heart. Absence of interstitial lung markings. No infiltrates."



Which of the following alternatives includes only cyanotic heart defects?

- Endocarditis, Interrupted Aortic Arch and Persistent Ductus Arteriosus
- Eisenmenger's syndrome, Pulmonary Stenosis and Coarctation
- Ventricular Septal defect, Hypoplastic Left Heart Syndrome and Mitral Stenosis
- Transposition of the great arteries, Tetralogy of Fallot, Tricuspid Atresia
- Pulmonary Atresia, Truncus Arteriosus Communis and Atrial Septal Defect

Answer:

Transposition of the great arteries, Tetralogy of Fallot, Tricuspid Atresia

Part 5:

You are on call in the emergency department. A refugee family from Abkhazia brings in their 5-year-old son. They believe he has an upper airway infection and the child sits on his mother's lap. You catch a glimpse of his toes below the wool blanket.
Your eager and helpful nurse informs you that she has already obtained routine blood samples in order to save time. She quotes the following results (normal values in parentheses):
Haemoglobin 18.9 g/dL (11.0-14.5 g/dL) , Haematocrit 62 % (34-40%), Leucocytes 7.2 $x10^9$/L (5-20 $x10^9$/L), Thrombocytes 315 $x10^9$/L (100-450 x109/L), CRP < 5 mg/L (<5 mg/dL), Sodium (Na) 134 mmol/L (135-146 mmol/L), Potassium (K) 4.6 mmol/L (3.5-5.0 mmol/L), Albumin 36 g/L (35-52 g/L), Creatinine 42 µmol/L (10-60 µmol/L).
The child's body size is below the 2.5 percentile for both height and weight. You confirm the clubbing of fingers and toes and palpate the edge of the liver at the costal margin. There is a loud systolic murmur, and you palpate normal peripheral pulses. On auscultation of the lungs you hear some sounds that you think may be transmitted from the upper airways because of nasal discharge, and in addition, perhaps also some crackles.
Pulse oximetry showed 83% in the right hand and foot. The X-ray description says: "Enlarged boot-shaped heart. Absence of interstitial lung markings. No infiltrates."
You are fortunate because one of your colleagues on duty is an adult cardiologist with some echocardiographic competence. He examines the child and believes that there is a Pulmonary Stenosis and probably a Ventricular Septal Defect. He thinks that the Aortic origin has a strange rightwards deviation and he finds thickened myocardium particularly in the right ventricle.

Question 1:

Which heart defect corresponds to these findings? (max 1 line)

Answer:

Tetralogy of Fallot.

Assessment: MEDSEM9_STATION15_H13_ORD

Part 1:

Late on a Saturday evening, 15 year old John was admitted to the Emergency Room. Previously the same evening, ambulance personnel had been called to a teenage party. On arrival, a couple of agitated youths explained that John had fallen "seriously ill" during the course of the party. The patient himself lay partly unconscious on a sofa; he was somnolent, but responded when he was addressed by name. It was obvious that alcoholic beverages had been consumed, but the youths vehemently denied any use of narcotics/illegal drugs. "John is never like that," a girl cried, "and tonight, he did not even drink beer."
In the Emergency Room the patient's level of consciousness was unaltered. His skin was pale and moist. The monitor displayed a heart rate of 175 beats/minute, blood pressure 85/55 mm Hg and SaO_2 99%. Respiration was rapid and deep, with a frequency of about 45 breaths/minute. The body temperature was 39.1°C.

Question 1:

Given this situation, which of the following emergency treatments should be started first?

- Intravenous injection of antibiotics
- Intravenous infusion of fluid
- Oxygen supply

Answer:

Intravenous infusion of fluid

Part 2:

Late on a Saturday evening, 15 year old John was admitted to the Emergency Room. Previously the same evening, ambulance personnel had been called to a teenage party. On arrival, a couple of agitated youths explained that John had fallen "seriously ill" during the course of the party. The patient himself lay partly unconscious on a sofa; he was somnolent, but responded when he was addressed by name. It was obvious that alcoholic beverages had been consumed, but the youths vehemently denied any use of narcotics/illegal drugs. "John is never like that," a girl cried, "and tonight, he did not even drink beer."
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A peripheral venous catheter (Venflon) was inserted, and intravenous fluid was administered at a rapid infusion rate.
A quick clinical examination revealed normal findings on auscultation of the heart and the lungs, and normal findings on abdominal palpitation. The patient did not seem to have neck stiffness. There was an uncharacteristic rash in the groin resembling bruises.

Question 1:

Based on what you know at this point, what seems to be the most likely diagnosis?

- Septicaemia
- Acute intoxication
- Bacterial pneumonia

Answer:

Septicaemia

Part 3:

Late on a Saturday evening, 15 year old John was admitted to the Emergency Room. Previously the same evening, ambulance personnel had been called to a teenage party. On arrival, a couple of agitated youths explained that John had fallen "seriously ill" during the course of the party. The patient himself lay partly unconscious on a sofa; he was somnolent, but responded when he was addressed by name. It was obvious that alcoholic beverages had been consumed, but the youths vehemently denied any use of narcotics/illegal drugs. "John is never like that," a girl cried, "and tonight, he did not even drink beer." In the Emergency Room the patient's level of consciousness was unaltered. His skin was pale and moist. The monitor displayed a heart rate of 175 beats/minute, blood pressure 85/55 mm Hg

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Septicaemia of unknown cause was regarded the most likely diagnosis. Blood samples were drawn for analyses of haematology and biochemistry, as well as blood cultures. Immediately after this, antibiotic treatment was started.

Question 1:

Which antibiotic regimen should be administered?

- Penicillin intravenously
- Penicillin and an aminoglycoside intravenously
- Penicillin, an aminoglycoside and an antifungal drug intravenously.

Answer:

Penicillin and an aminoglycoside intravenously

Part 4:

Late on a Saturday evening, 15 year old John was admitted to the Emergency Room. Previously the same evening, ambulance personnel had been called to a teenage party. On arrival, a couple of agitated youths explained that John had fallen "seriously ill" during the course of the party. The patient himself lay partly unconscious on a sofa; he was somnolent, but responded when he was addressed by name. It was obvious that alcoholic beverages had been consumed, but the youths vehemently denied any use of narcotics/illegal drugs. "John is never like that," a girl cried, "and tonight, he did not even drink beer." In the Emergency Room the patient's level of consciousness was unaltered. His skin was pale and moist. The monitor displayed a heart rate of 175 beats/minute, blood pressure 85/55 mm Hg and SaO_2 99%. Respiration was rapid and deep, with a frequency of about 45 breaths/minute. The body temperature was 39.1°C. A peripheral venous catheter (Venflon) was inserted, and intravenous fluid was administered at a rapid infusion rate. A quick clinical examination revealed normal findings on auscultation of the heart and the lungs, and normal findings on abdominal palpitation. The patient did not seem to have neck stiffness. There was an uncharacteristic rash in the groin resembling bruises. Septicaemia of unknown cause was regarded the most likely diagnosis. Blood samples were drawn for analyses of haematology and biochemistry, as well as blood cultures. Immediately after this, antibiotic treatment was started.
The patient was given penicillin and an aminoglycoside intravenously. After this, he was referred for imaging diagnostics.

Question 1:

Which imaging procedures are most relevant in this situation?

- Chest X-ray and Abdominal Ultrasound
- Abdominal Ultrasound and Cerebral CT scan
- Chest X-ray and Cerebral CT scan

Answer:

Chest X-ray and Cerebral CT scan

Part 5:

Late on a Saturday evening, 15 year old John was admitted to the Emergency Room. Previously the same evening, ambulance personnel had been called to a teenage party. On arrival, a couple of agitated youths explained that John had fallen "seriously ill" during the course of the party. The patient himself lay partly unconscious on a sofa; he was somnolent, but responded when he was addressed by name. It was obvious that alcoholic beverages had been consumed, but the youths vehemently denied any use of narcotics/illegal drugs. "John is never like that," a girl cried, "and tonight, he did not even drink beer." In the Emergency Room the patient's level of consciousness was unaltered. His skin was pale and moist. The monitor displayed a heart rate of 175 beats/minute, blood pressure 85/55 mm Hg and SaO_2 99%. Respiration was rapid and deep, with a frequency of about 45 breaths/minute. The body temperature was 39.1°C. A peripheral venous catheter (Venflon) was inserted, and intravenous fluid was administered at a rapid infusion rate. A quick clinical examination revealed normal findings on auscultation of the heart and the lungs, and normal findings on abdominal palpitation. The patient did not seem to have neck stiffness. There was an uncharacteristic rash in the groin resembling bruises. Septicaemia of unknown cause was regarded the most likely

diagnosis. Blood samples were drawn for analyses of haematology and biochemistry, as well as blood cultures. Immediately after this, antibiotic treatment was started.
The patient was given penicillin and an aminoglycoside intravenously. After this, he was referred for imaging diagnostics.
Chest X-ray and Cerebral CT scan were performed; both revealed normal findings. In the meantime, several of the blood analyses had been completed (reference range in parentheses):
Hgb 14.7 (13.4–17.0) g/dL
Leukocytes 18.4 (3.6–9.3) x 10^9 cells/L
Platelets 256 (145–348) x 109 cells/L
CRP 149 (< 4) mg/l
Sodium 143 (137–144) mmol/L
Potassium 6.6 (3.5–4.4) mmol/L
Creatinine 98 (60–105) µmol/L
pH 6.96 (7.36–7.44)
pCO_2 3.2 (4.7–5.9) kPa
BE –26.4 (–3 – +3) mmol/L
Ethanol blood content 0.0‰.

Question 1:

What conclusions can be drawn from the analyses of electrolytes and blood gases/acid-base status?

- ☐ Hyperkalaemia
- ☐ Hypokalaemia
- ☐ Metabolic acidosis without respiratory compensation
- ☐ Metabolic acidosis, with partial respiratory compensation
- ☐ Metabolic alkalosis
- ☐ Respiratory acidosis
- ☐ Respiratory alkalosis

Answer:

Hyperkalaemia
Metabolic acidosis, with partial respiratory compensation

Part 6:

Late on a Saturday evening, 15 year old John was admitted to the Emergency Room. Previously the same evening, ambulance personnel had been called to a teenage party. On arrival, a couple of agitated youths explained that John had fallen "seriously ill" during the course of the party. The patient himself lay partly unconscious on a sofa; he was somnolent, but responded when he was addressed by name. It was obvious that alcoholic beverages had been consumed, but the youths vehemently denied any use of narcotics/illegal drugs. "John is never like that," a girl cried, "and tonight, he did not even drink beer." In the Emergency Room the patient's level of consciousness was unaltered. His skin was pale and moist. The monitor displayed a heart rate of 175 beats/minute, blood pressure 85/55 mm Hg and SaO_2 99%. Respiration was rapid and deep, with a frequency of about 45 breaths/minute. The body temperature was 39.1°C. A peripheral venous catheter (Venflon) was inserted, and intravenous fluid was administered at a rapid infusion rate. A quick clinical examination revealed normal findings on auscultation of the heart and the lungs, and normal findings on abdominal palpitation. The patient did not seem to have neck stiffness. There was an uncharacteristic rash in the groin resembling bruises. Septicaemia of unknown cause was regarded the most likely diagnosis. Blood samples were drawn for analyses of haematology and biochemistry, as well as blood cultures. Immediately after this, antibiotic treatment was started.
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pH 6.96 (7.36–7.44)
pCO_2 3.2 (4.7–5.9) kPa
BE –26.4 (–3 – +3) mmol/L
Ethanol blood content 0.0‰.

The blood analyses revealed a serious metabolic acidosis that was partly respiratory compensated. In addition, the patient suffered from hyperkalaemia.
An effort was made to get in touch with the patient's parents. Finally, a nurse in the Emergency Room managed to get John's mother on the phone. She related that her son had been fatigued and 'out of sorts' during the last couple of weeks. During the same period, he had been remarkably thirsty. During the last days, he had been drinking 2-3 litres of mineral water a day, and had gone to the toilet more frequently than was usual. He had also been up at night to pee (urinate/void).

Question 1:

Given the information from John's mother and his clinical status on admission, which blood test should really have been done on admission, and must now be obtained as soon as possible ("STAT")?

- Bilirubin
- Glucose
- proBNP

Answer:

Glucose

Part 7:

Late on a Saturday evening, 15 year old John was admitted to the Emergency Room. Previously the same evening, ambulance personnel had been called to a teenage party. On arrival, a couple of agitated youths explained that John had fallen "seriously ill" during the course of the party. The patient himself lay partly unconscious on a sofa; he was somnolent, but responded when he was addressed by name. It was obvious that alcoholic beverages had been consumed, but the youths vehemently denied any use of narcotics/illegal drugs. "John is never like that," a girl cried, "and tonight, he did not even drink beer." In the Emergency Room the patient's level of consciousness was unaltered. His skin was pale and moist. The monitor displayed a heart rate of 175 beats/minute, blood pressure 85/55 mm Hg and SaO_2 99%. Respiration was rapid and deep, with a frequency of about 45 breaths/minute. The body temperature was 39.1°C. A peripheral venous catheter (Venflon) was inserted, and intravenous fluid was administered at a rapid infusion rate. A quick clinical examination revealed normal findings on auscultation of the heart and the lungs, and normal findings on abdominal palpitation. The patient did not seem to have neck stiffness. There was an uncharacteristic rash in the groin resembling bruises. Septicaemia of unknown cause was regarded the most likely diagnosis. Blood samples were drawn for analyses of haematology and biochemistry, as well as blood cultures. Immediately after this, antibiotic treatment was started.
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Blood glucose was markedly elevated, with a value of 28.9 mmol/L (reference range 3.7 to 5.1 mmol/L). Hence, this patient suffered from diabetes mellitus. (It was a mistake not to measure blood glucose immediately - normally, this would have been done by the ambulance personnel or upon arrival at the Emergency Room).

Question 1:

If you dipstick analyse a urine sample from John – which square(s)/areas of the dipstick will probably be strongly positive?

- ☐ Glucose
- ☐ Ketones
- ☐ Blood/erythrocytes
- ☐ Leucocytes
- ☐ Nitrate

Answer:

Glucose
Ketones

Part 8:

Late on a Saturday evening, 15 year old John was admitted to the Emergency Room. Previously the same evening, ambulance personnel had been called to a teenage party. On arrival, a couple of agitated youths explained that John had fallen "seriously ill" during the course of the party. The patient himself lay partly unconscious on a sofa; he was somnolent, but responded when he was addressed by name. It was obvious that alcoholic beverages had been consumed, but the youths vehemently denied any use of narcotics/illegal drugs. "John is never like that," a girl cried, "and tonight, he did not even drink beer." In the Emergency Room the patient's level of consciousness was unaltered. His skin was pale and moist. The monitor displayed a heart rate of 175 beats/minute, blood pressure 85/55 mm Hg and SaO_2 99%. Respiration was rapid and deep, with a frequency of about 45 breaths/minute. The body temperature was 39.1°C. A peripheral venous catheter (Venflon) was inserted, and intravenous fluid was administered at a rapid infusion rate. A quick clinical examination revealed normal findings on auscultation of the heart and the lungs, and normal findings on abdominal palpitation. The patient did not seem to have neck stiffness. There was an uncharacteristic rash in the groin resembling bruises. Septicaemia of unknown cause was regarded the most likely diagnosis. Blood samples were drawn for analyses of haematology and biochemistry, as well as blood cultures. Immediately after this, antibiotic treatment was started.
The patient was given penicillin and an aminoglycoside intravenously. After this, he was referred for imaging diagnostics.
Chest X-ray and Cerebral CT scan were performed; both revealed normal findings. In the meantime, several of the blood analyses had been completed (reference range in parentheses):
Hgb 14.7 (13.4–17.0) g/dL
Leukocytes 18.4 (3.6–9.3) x 10^9 cells/L
Platelets 256 (145–348) x 109 cells/L
CRP 149 (< 4) mg/l
Sodium 143 (137–144) mmol/L
Potassium 6.6 (3.5–4.4) mmol/L
Creatinine 98 (60–105) µmol/L
pH 6.96 (7.36–7.44)
pCO_2 3.2 (4.7–5.9) kPa
BE –26.4 (–3 – +3) mmol/L
Ethanol blood content 0.0‰.
The blood analyses revealed a serious metabolic acidosis that was partly respiratory compensated. In addition, the patient suffered from hyperkalaemia. An effort was made to get in touch with the patient's parents. Finally, a nurse in the Emergency Room managed to get John's mother on the phone. She related that her son had been fatigued and 'out of sorts' during the last couple of weeks. During the same period, he had been remarkably thirsty. During the last days, he had been drinking 2-3 litres of mineral water a day, and had gone to the toilet more frequently than was usual. He had also been up at night to pee (urinate/void).
Blood glucose was markedly elevated, with a value of 28.9 mmol/L (reference range 3.7 to 5.1 mmol/L). Hence, this patient suffered from diabetes mellitus. (It was a mistake not to measure blood glucose immediately - normally, this would have been done by the ambulance personnel or upon arrival at the Emergency Room).
A dipstick analysis of John's urine was strongly positive for glucose and ketones. Some ketones are acids, explaining why this patient had a serious metabolic acidosis (ketoacidosis).

Question 1:

Describe briefly the biological mechanisms underlying production of ketones in untreated diabetes mellitus. (Max 3 lines).

Answer:

Production of ketones in untreated diabetes mellitus is a result of uncontrolled break-down of fatty acids, in

turn caused by the lack of insulin. (6p)
Production of ketones is caused by lack of insulin (3p).

Part 9:

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Question 1:

List at least 4 different long-term complications of diabetes.

Answer:

(A total of 6p is the maximum score):
Diabetic retinopathy. (2p)
Diabetic kidney disease (nephropathy). (2p)
Diabetic neuropathy. (1p)
General atherosclerosis. (1p)
Cardiomyopathy and/or coronary artery disease. (1p)
Stroke. (1p)
Peripheral artery disease / intermittent claudication (1p)
Diabetic foot ulcers/sores. (1p)
Diabetic encephalopaty. (1p)

Part 10:

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Blood glucose was markedly elevated, with a value of 28.9 mmol/L (reference range 3.7 to 5.1 mmol/L). Hence, this patient suffered from diabetes mellitus. (It was a mistake not to measure blood glucose immediately - normally, this would have been done by the ambulance personnel or upon arrival at the Emergency Room).
A dipstick analysis of John's urine was strongly positive for glucose and ketones. Some ketones are acids, explaining why this patient had a serious metabolic acidosis (ketoacidosis).

Question 1:

Suggest at least three concrete means for increasing John's compliance.

Answer:

Patient education regarding self-treatment/management of diabetes (2p).
Well-planned and gradual transition from pediatric to adult health care services (2p).
Participation in youth groups / self-help groups (2p)
Instruction through local centers for "learning and mastery" (2p)
Other reasonable suggestions (2p)
(For a maximum of 6p).

Assessment: MEDSEM9_STATION16_H13_ORD

Part 1:

A 3 year old boy was brought to the emergency room due to a rash on the buttocks and the extensor surfaces of his legs and arms. The parents explained that he had previously been healthy and had been vaccinated (immunized) according to the normal programme. The current complaint consisted of signs of upper airway infection for 4 days, while the rash had developed since yesterday.
On clinical examination his height and weight were at the 50th percentile. Findings consisted of a slightly sore throat, a moderate papular, petechial rash on the buttocks and extensor surfaces of his legs and arms, and moderate oedema of the feet. There was no lymphadenopathy, and findings were normal for the lungs, heart, and abdomen

Question 1:

Which of the following diagnoses are the most likely? Mark 3 alternatives

- ☐ Idiopathic thrombocytopenic purpura
- ☐ Coeliac disease
- ☐ Henoch Schönlein's purpura
- ☐ Haemoglobinopathies
- ☐ Leukaemia
- ☐ Urinary tract infection
- ☐ Rickets

Answer:

Idiopathic thrombocytopenic purpura
Henoch Schönlein's purpura
Leukaemia

Part 2:

A 3 year old boy was brought to the emergency room due to a rash on the buttocks and the extensor surfaces of his legs and arms. The parents explained that he had previously been healthy and had been vaccinated (immunized) according to the normal programme. The current complaint consisted of signs of upper airway infection for 4 days, while the rash had developed since yesterday.
On clinical examination his height and weight were at the 50th percentile. Findings consisted of a slightly sore throat, a moderate papular, petechial rash on the buttocks and extensor surfaces of his legs and arms, and moderate oedema of the feet. There was no lymphadenopathy, and findings were normal for the lungs, heart, and abdomen
The most likely diagnoses are idiopathic thrombocytopenic purpura, Henoch Schönlein's Purpura and leukemia.
You decide to order tests for Hgb, white blood cell and platelet count. However, you believe that it would be wise to order some other tests right away.

Question 1:

Which of the of following tests should be part of this first panel of tests? Mark 3 alternatives

- ☐ Bone marrow examination
- ☐ Haemoglobin electrophoresis
- ☐ Urine examination
- ☐ Echocardiography
- ☐ Peripheral blood smear, reticulocyte count
- ☐ CRP (C-reactive protein)

Answer:

Urine examination
Peripheral blood smear, reticulocyte count
CRP (C-reactive protein)

Part 3:

A 3 year old boy was brought to the emergency room due to a rash on the buttocks and the extensor surfaces of his legs and arms. The parents explained that he had previously been healthy and had been vaccinated (immunized) according to the normal programme. The current complaint consisted of signs of upper airway infection for 4 days, while the rash had developed since yesterday.
On clinical examination his height and weight were at the 50th percentile. Findings consisted of a slightly sore throat, a moderate papular, petechial rash on the buttocks and extensor surfaces of his legs and arms, and moderate oedema of the feet. There was no lymphadenopathy, and findings were normal for the lungs, heart, and abdomen, The most likely diagnoses are idiopathic thrombocytopenic purpura, Henoch Schönlein's Purpura and leukemia. You decide to order tests for Hgb, white blood cell and platelet count. However, you believe that it would be wise to order some other tests right away.
The following are some early test results (not limited to those discussed above): Normal Hgb, white blood cell and platelet counts, reticulocyte count, CRP, MCH, MCV, MCHC, ferritin and TIBC, urine tests.

Question 1:

Which diagnosis is now most likely? Mark 1 alternative

- Idiopathic thrombocytopenic purpura
- Henoch Schönlein's purpura
- Leukaemia

Answer:

Henoch Schönlein's purpura

Part 4:

A 3 year old boy was brought to the emergency room due to a rash on the buttocks and the extensor surfaces of his legs and arms. The parents explained that he had previously been healthy and had been vaccinated (immunized) according to the normal programme. The current complaint consisted of signs of upper airway infection for 4 days, while the rash had developed since yesterday.
On clinical examination his height and weight were at the 50th percentile. Findings consisted of a slightly sore throat, a moderate papular, petechial rash on the buttocks and extensor surfaces of his legs and arms, and moderate oedema of the feet. There was no lymphadenopathy, and findings were normal for the lungs, heart, and abdomen, The most likely diagnoses are idiopathic thrombocytopenic purpura, Henoch Schönlein's Purpura and leukemia. You decide to order tests for Hgb, white blood cell and platelet count. However, you believe that it would be wise to order some other tests right away. The following are some early test results (not limited to those discussed above): Normal Hgb, white blood cell and platelet counts, reticulocyte count, CRP, MCH, MCV, MCHC, ferritin and TIBC, urine tests.
The most likely diagnosis is Henoch Schönlein's purpura

Question 1:

Which of the following decisions would you now make? Mark 1 alternative

- Order more blood tests?
- Start with iron supplement
- Refer him for bone marrow examination
- No treatment, no follow up
- No treatment, follow up after 4 weeks
- Start antibiotics

Answer:

No treatment, follow up after 4 weeks

Assessment: MEDSEM9_STATION18_H13_ORD

Part 1:

A mother brings her 10 year old girl to your office because she is smaller than all the other girls in her class in school.

Question 1:

In what circumstances should children be examined by a doctor due to short stature? (mark two - 2 - answers)

- ☐ All children with a height less than the 2.5 centile for age
- ☐ All children with a father or a mother with a height below the 2.5 centile
- ☐ All children with a height below the 10th centile
- ☐ All children in whom height has decreased more than two centile channels in the growth chart

Answer:

All children with a height less than the 2.5 centile for age
All children in whom height has decreased more than two centile channels in the growth chart

Question 2:

Which information would you consider to be the most important to collect initially? (mark one - 1 - answer)

- ○ Family history of mother's and father's height and pubertal development
- ○ History of pregnancy and birth (including birth weight, length and head circumference)
- ○ Growth Chart (percentiles) of height and weight
- ○ Pubertal development (Tanner stage)

Answer:

Growth Chart (percentiles) of height and weight

Part 2:

A mother brings her 10 year old girl to your office because she is smaller than all the other girls in her class in school.

The child was referred to the growth clinic/endocrine unit at the nearest paediatric department.

Question 1:

Which additional examinations are indicated first (blood tests not included) (Mark three - 3 - answers)

- ☐ X-ray for Bone age and final height prediction
- ☐ Measurements of standing height, sitting height, and arm span to evaluate possible signs of dysmorphology
- ☐ Ultrasound of the abdomen and pelvis
- ☐ Height velocity chart

Answer:

X-ray for Bone age and final height prediction
Measurements of standing height, sitting height, and arm span to evaluate possible signs of dysmorphology
Height velocity chart

Part 3:

A mother brings her 10 year old girl to your office because she is smaller than all the other girls in her class in school. The child was referred to the growth clinic/endocrine unit at the nearest paediatric department.
Height was 5 cm below the 2.5 centile, Height velocity 3 cm per year (2.5 centile), Tanner stages were 1. Bone age was 8 years (chronological age 10 years). No signs of dysmorphology. She had no symptoms or signs suggestive of ongoing/active illness.

Question 1:

Which blood tests would you suggest carrying out first? (Mark four - 4 - answers)

- ☐ TSH and free thyroxin
- ☐ Cortisol, ACTH
- ☐ HbA1c
- ☐ Coeliac screening (Transglutaminase)
- ☐ Growth Hormone, Insulin-like growth factor 1 (IGF-1), IGF Binding protein 3 (IGF-BP3)
- ☐ Chromosomes

Answer:

TSH and free thyroxin
Coeliac screening (Transglutaminase)
Growth Hormone, Insulin-like growth factor 1 (IGF-1), IGF Binding protein 3 (IGF-BP3)
Chromosomes

Part 4:

A mother brings her 10 year old girl to your office because she is smaller than all the other girls in her class in school. The child was referred to the growth clinic/endocrine unit at the nearest paediatric department.
Height was 5 cm below the 2.5 centile, Height velocity 3 cm per year (2.5 centile), Tanner stages were 1. Bone age was 8 years (chronological age 10 years). No signs of dysmorphology. She had no symptoms or signs suggestive of ongoing/active illness.
The tests you had carried out yielded the following results: Normal female chromosomes, normal TSH and free thyroxin, normal coeliac screen. Serum growth hormone was within normal reference range. However, IGF-1 and IGF-BP3 were low.

Question 1:

Which additional diagnostic steps would you suggest?

- ☐ Total body skeletal X-ray
- ☐ MRI of CNS and pituitary gland.
- ☐ Growth hormone stimulation test
- ☐ LHRH stimulation test

Answer:

MRI of CNS and pituitary gland.
Growth hormone stimulation test

Part 5:

A mother brings her 10 year old girl to your office because she is smaller than all the other girls in her class in school. The child was referred to the growth clinic/endocrine unit at the nearest paediatric department. Height was 5 cm below the 2.5 centile, Height velocity 3 cm per year (2.5 centile), Tanner stages were 1. Bone age was 8 years (chronological age 10 years). No signs of dysmorphology. She had no symptoms or signs suggestive of ongoing/active illness. The tests you had carried out yielded the following results: Normal female chromosomes, normal TSH and free thyroxin, normal coeliac screen. Serum growth hormone was within normal reference range. However, IGF-1 and IGF-BP3 were low.
These tests yielded the following results: Stimulated growth hormone was low.

Question 1:

Which diagnosis does this suggest? (max 1 line)

Answer:

Growth hormone deficiency (6p).

Part 6:

A mother brings her 10 year old girl to your office because she is smaller than all the other girls in her class in school. The child was referred to the growth clinic/endocrine unit at the nearest paediatric department. Height was 5 cm below the 2.5 centile, Height velocity 3 cm per year (2.5 centile), Tanner stages were 1. Bone age was 8 years (chronological age 10 years). No signs of dysmorphology. She had no symptoms or signs suggestive of ongoing/active illness. The tests you had carried out yielded the following results: Normal female chromosomes, normal TSH and free thyroxin, normal coeliac screen. Serum growth hormone was within normal reference range. However, IGF-1 and IGF-BP3 were low. These tests yielded the following results: Stimulated growth hormone was low.
You diagnose growth hormone deficiency.

Question 1:

Which treatment would you suggest? (max 1 line)

Answer:

Daily subcutaneous injections of growth hormone (6p).

Assessment: MEDSEM9_STATION19_H13_ORD

Part 1:

A 32-year-old woman in her first pregnancy presents at your office as general practitioner. She is 30 weeks pregnant and complains about increasing oedema in her hands and feet during the last two weeks. Her blood pressure is 140/85 mmHg with an increase in diastolic blood pressure since her last visit two weeks ago. Urine dipstick shows traces of proteinuria.

Question 1:

Does she need treatment for her oedema?

- yes
- no

Answer:

no

Question 2:

When should she been seen for her next appointment?

- Within 3-4 days
- Within two weeks
- Within four weeks

Answer:

Within 3-4 days

Part 2:

A 32-year-old woman in her first pregnancy presents at your office as general practitioner. She is 30 weeks pregnant and complains about increasing oedema in her hands and feet during the last two weeks. Her blood pressure is 140/85 mmHg with an increase in diastolic blood pressure since her last visit two weeks ago. Urine dipstick shows traces of proteinuria.
At a visit four days later her oedema and blood pressure are the same. Five days thereafter she complains about frontal headache and visual disturbance. She feels generally unwell. Her blood pressure is 160/105 mmHg and urinary dipstick shows proteinuria 2+. She feels foetal movements.

Question 1:

What is the most likely diagnosis?

Answer:

Preeclampsia (6 p)
HELLP syndrome (3 p)

Question 2:

What do you do? (max 1 line)

Answer:

"Prompt referral" to obstetric department

Part 3:

A 32-year-old woman in her first pregnancy presents at your office as general practitioner. She is 30 weeks pregnant and complains about increasing oedema in her hands and feet during the last two weeks. Her blood pressure is 140/85 mmHg with an increase in diastolic blood pressure since her last visit two weeks ago. Urine dipstick shows traces of proteinuria.
At a visit four days later her oedema and blood pressure are the same. Five days thereafter she complains about frontal headache and visual disturbance. She feels generally unwell. Her blood pressure is 160/105 mmHg and urinary dipstick shows proteinuria 2+. She feels foetal movements.
Your initial diagnosis is preeclampsia and you refer your patient immediately to the hospital. Two days later in the hospital the patient has epigastric pain. On abdominal palpation she is tender below the right costal rim. The uterus is without specific tenderness. The obstetrician suspects that her preeclampsia has worsened.

Question 1:

What diagnostic blood tests would you take (list a maximum of six blood tests)?

Answer:

(1 point for each correct answer)

Haemoglobin
Haematocrit
Platelets
ASAT
ALAT
LDH
Creatinine
Haptoglobin
Uric acid
Blood smear (burr cells, schistocytosis)
Fibrinogen
INR
Cephotest
D-dimer

Part 4:

A 32-year-old woman in her first pregnancy presents at your office as general practitioner. She is 30 weeks pregnant and complains about increasing oedema in her hands and feet during the last two weeks. Her blood pressure is 140/85 mmHg with an increase in diastolic blood pressure since her last visit two weeks ago. Urine dipstick shows traces of proteinuria.
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The blood tests suggest HELLP syndrome as the most likely diagnosis.

Question 1:

What does the acronym HELLP mean?

Answer:

Haemolysis (2 p)
Elevated Liver enzymes (2 p)
Low Platelets (2 p)

Question 2:

The same evening she starts having painful uterine contractions. The uterus is tense and painful between the contractions. You notice some vaginal bleeding. Ultrasound examination shows placental location in the fundal area and foetal bradycardia.
What is the most likely diagnosis (one alternative)?

- Placenta praevia
- Placental abruption
- Superimposed preeclampsia
- Normal labour

Answer:

Placental abruption

Part 5:

A 32-year-old woman in her first pregnancy presents at your office as general practitioner. She is 30 weeks pregnant and complains about increasing oedema in her hands and feet during the last two weeks. Her blood pressure is 140/85 mmHg with an increase in diastolic blood pressure since her last visit two weeks ago. Urine dipstick shows traces of proteinuria.
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The same evening she starts having painful uterine contractions. The uterus is tense and painful between the contractions. You notice some vaginal bleeding. Ultrasound examination shows placental location in the fundal area and foetal bradycardia
You suspect placental abruption.

Question 1:

What is your treatment option (one alternative)?

- Maternal steroid treatment to mature foetal lung development
- Induce delivery by amniotomy and oxytocin
- Prompt delivery by caesarean section

Answer:

Prompt delivery by caesarean section

Assessment: MEDSEM9_STATION20_H13_ORD

Part 1:

A 30-year-old Rhesus negative pregnant woman has had one previous spontaneous abortion in gestational week 16. This is her second pregnancy. A blood test taken at your office as a general practitioner at 12 weeks gestation showed anti-D antibodies with a low titer.

Question 1:

Why is it important to identify Rhesus antibodies during pregnancy?

Answer:

Risk of developing foetal anemia (red cell alloimmunization)

Question 2:

A new blood test taken at your office at 18 weeks gestation showed a significant increase in anti-D titer from the previous test.
What do you do?

Answer:

The woman should be referred to the obstetric department

Question 3:

In her previous pregnancy ending with a spontaneous abortion she did not receive any specific treatment due to her Rhesus status (Rhesus negative).
What prophylactic treatment is available to prevent immunization in Rhesus negative women?

Answer:

Injection of anti-D antibodies

Part 2:

As a general practitioner you are contacted by another pregnant woman at gestational week 24. Her older child is in a day-care nursery. Several of the children in the nursery have the fifth children's disease (erythema infectiosum, parvovirus B 19 infection). For two days she has had a rash and been subfebrile.

Question 1:

What harm could a parvovirus B 19 infection do at this stage of pregnancy?

Answer:

Development of foetal anaemia (reduced production of red blood cells) (3 p)

Question 2:

What is the best investigation to diagnose a maternal parvovirus B 19 infection?

Answer:

Maternal serology (specific IgG and IgM antibodies) (3 p)

Assessment: MEDSEM9_STATION21_H13_ORD

Part 1:

You are a general practitioner in a small suburban village. A 40 year old woman who is 8 weeks pregnant is seeking your advice concerning prenatal diagnostics due to her age.

Question 1:

Which two of these foetal disorders are related to maternal age?

- ☐ Down's syndrome (trisomy 21)
- ☐ Cystic fibrosis
- ☐ Neural tube defects
- ☐ Edward syndrome (trisomy 18)

Answer:

Down's syndrome (trisomy 21)
Edward syndrome (trisomy 18)

Part 2:

You are a general practitioner in a small suburban village. A 40 year old woman who is 8 weeks pregnant is seeking your advice concerning prenatal diagnostics due to her age.

Question 1:

Mention up to four non-invasive (screening) and invasive (diagnostic) prenatal tests available for testing for or diagnosing trisomy 21 or trisomy 18 (chromosomal disorders).

Answer:

1.5 p for each correct answer
Double test ("duotest")
Nuchal translucency scan (NT scan, "early ultrasound")
Triple test
Amniocentesis ("fostervannsprøve")
Chorionic villus sampling (CVS) ("morkakeprøve")
free foetal DNA in maternal blood (not available in Norway)

Question 2:

You know the woman and her family well from previous consultations. You will write a referral letter to the nearest department for medical genetics or foetal medicine. From the list below indicate the four cells with the most medically relevant information for your referral letter concerning prenatal diagnostics.

- ☐ The woman is 40 years old (date of birth)
- ☐ She has been married for ten years
- ☐ Her father died from coronary heart disease 60 years old
- ☐ Her blood group is A Rhesus negative
- ☐ She is the oldest of two sisters
- ☐ First day of last menstrual period, regular periods
- ☐ Her mother is well and lives in her neighbourhood
- ☐ Her cousin has a child with Turner syndrome
- ☐ She has two children. Six months ago she had a spontaneous abortion. This is her fourth pregnancy
- ☐ She works as a secretary at a local hospital
- ☐ Her husband is a medical doctor
- ☐ She had preeclampsia in her first pregnancy

Answer:

The woman is 40 years old (date of birth)

Her blood group is A Rhesus negative

First day of last menstrual period, regular periods

She has two children. Six months ago she had a spontaneous abortion. This is her fourth pregnancy

Assessment: MEDSEM9_STATION22_H13_ORD

Part 1:

Question 1:

Which three types of gynaecological cancer (ca mammae not included) are most frequent (have the highest incidence)?

- ☐ Cancer vulvae
- ☐ Cancer cervicis uteri
- ☐ Cancer corporis uteri
- ☐ Cancer ovarii
- ☐ Cancer tubae
- ☐ Choriocarcinoma

Answer:
Cancer cervicis uteri
Cancer corporis uteri
Cancer ovarii

Part 2:

The three most frequent types of gynaecological cancer are cancer cervicis uteri, cancer corporis uteri, cancer ovarii.

Question 1:

Which of these has increased in incidence in developed countries the last decades?

- ○ Cancer cervicis uteri
- ○ Cancer corporis uteri
- ○ Cancer ovarii

Answer:
Cancer corporis uteri

Part 3:

The three most frequent types of gynaecological cancer are cancer cervicis uteri, cancer corporis uteri, cancer ovarii.
Cancer corporis uteri has increased in incidence in western countries in the last decades.

Question 1:

Describe three factors which may have contributed to the increasing incidence of cancer corporis uteri in western countries during the last decades.

Answer:
2 p for each (max 6 p)
Obestity
Low parity
Late onset of menopause
Long lasting use of oestrogens
Older women

Question 2:

Which type of gynaecological cancer is associated with HPV infection (human papilloma virus)?

- Cancer vulvae
- Cancer cervicis uteri
- Cancer corporis uteri
- Cancer ovarii
- Cancer tubae
- Choriocarcinoma

Answer:
Cancer cervicis uteri

Question 3:

Which tumour marker may be useful in monitoring the treatment effect in women with gynaecological cancer?

- Ca125
- CEA
- PSA

Answer:
Ca125

Part 4:

The three most frequent types of gynaecological cancer are cancer cervicis uteri, cancer corporis uteri, cancer ovarii. Cancer corporis uteri has increased in incidence in western countries in the last decades.

Question 1:

In which type of gynaecological cancer may Ca125 be useful in monitoring the treatment effect?

- Cancer vulvae
- Cancer cervicis uteri
- Cancer corporis uteri
- Cancer ovarii
- Cancer tubae
- Choriocarcinoma

Answer:
Cancer ovarii

Assessment: MEDSEM9_STATION23_H13_ORD

Part 1:

As a general practitioner you are consulted by a 26 year old woman. She has previously been healthy. She has no previous pregnancies. Her last period started 7 weeks ago. She had a positive pregnancy test (urine HCG) at home 4 days ago.
The last three days she has suffered from minor vaginal bleeding and light pelvic pain/discomfort.

Question 1:

Give two possible diagnoses.

Answer:

Spontaneous abortion (or threatened abortion)
Ectopic pregnancy
(3 p for each, max score 6 p)

Question 2:

You need to perform further investigations and/or refer the patient to a gynaecologist in order to find the correct diagnose.
List three different investigations that you and/or the gynaecologist will carry out.

Answer:

Gynaecological examination
s-HCG (day 1 and 3)
Transvaginal ultrasound examination

(2 p each, max score 6 p)

Part 2:

As a general practitioner you are consulted by a 26 year old woman. She has previously been healthy. She has no previous pregnancies. Her last period started 7 weeks ago. She had a positive pregnancy test (urine HCG) at home 4 days ago.
The last three days she has suffered from minor vaginal bleeding and light pelvic pain/discomfort.
You measure s-HCG the same day and two days later, and refer the woman to a gynaecologist for gynaecological examination including a transvaginal ultrasound examination.
The first s-HCG level is 1000 IU/l. Two days later the s-HCG level is 1300 IU/l.
The transvaginal ultrasound examination reveals stimulated endometrium but no intrauterine foetus.

Question 1:

Which diagnose is the most likely?

- Ectopic pregnancy
- Normal first trimester pregnancy
- Spontaneous abortion

Answer:

Ectopic pregnancy

Part 3:

As a general practitioner you are consulted by a 26 year old woman. She has previously been healthy. She has no previous pregnancies. Her last period started 7 weeks ago. She had a positive pregnancy test (urine HCG) at home 4 days ago.
The last three days she has suffered from minor vaginal bleeding and light pelvic pain/discomfort.
You measure s-HCG the same day and two days later, and refer the woman to a gynaecologist for gynaecological examination including a transvaginal ultrasound examination.
The first s-HCG level is 1000 IU/l. Two days later the s-HCG level is 1300 IU/l.
The transvaginal ultrasound examination reveals stimulated endometrium but no intrauterine foetus.
You inform the woman that she might be suffering from an ectopic pregnancy.

Question 1:

Describe three risk factors for ectopic pregnancy.

Answer:

Previous infection (chlamydia)
Previous ectopic pregnancy
Previous surgery (adhesions)
IUD
Endometriosis
(1 p for each, max score 3 p)

Question 2:

Describe two possible treatment options for ectopic pregnancy.

Answer:

Surgery (salpingectomy or salpingostomy) (2 p)
Intramuscular methotrexate injection (1 p)