Questions from the Pediatric part of the digital exam autumn 2024

Gastroenterology 9A

Two months ago, a 3-year-old boy had gastroenteritis with mild fever, vomiting and diarrhea for 2-3 days. His father now brings him to your GP-office because his stools have not returned to normal. There is no visible blood or mucus, but they are still loose and smelly and occur 3-4 times daily.

Question (MR)

Which are the **two** most likely causes of his persistent loose stools?

- **a) Toddler's (functional) diarrhea**
- b) Inflammatory bowel disease
- c) Secondary bacterial infection
- d) Secondary lactose intolerance
- **e) Celiac disease**

Ref: Giannattasio A, Guarino A, Lo Vecchio A. Management of children with prolonged diarrhea. *F1000Res*. 2016;5:F1000 Faculty Rev-206. Published 2016 Feb 23. doi:10.12688/f1000research.7469.1

Infection 9C

At mid-winter in the community ER (Legevakt), a couple brings their 2-month-old baby girl with a three-day history of a runny nose, cough and increasing breathing problems. No fever. The baby is breastfed, but today she seems more tired and falls asleep at the breast.

Upon examination, the baby is awake with a temperature 37.4 °C. She responds adequately to the examination, and does not seem irritable. She has mild, subcostal retractions. Upon auscultation she has fine crackles bilaterally, as well as expiratory wheezing.

Vitals: Respiration rate 62 (ref <50), Heart rate 136 (ref <140), central capillary refill time 2 s, Oxygen saturation 95%.

Question C (MC)

The hospital is a 20 minutes' drive away. What is the most appropriate management of this baby?

- a) Return home with careful instructions for new contact in case of worsening
- b) Give inhalation with racemic adrenaline and oral steroids and await the effect
- **c) Acute referral to the pediatric department (parents bring the baby themselves)**
- d) Immediate intravenous access, supplemental oxygen and transport by ambulance

Neurology 6, B-C

An 8-year-old boy previously healthy, is referred by his GP to a Pediatric department in the south of Norway in July. The reason is a short medical history of facial asymmetry observed by the boy's mother. Two weeks ago, the boy suffered of fever and headache for about 2 days. There are no known cases of neurological diseases in the family, and no other family member has any symptoms. No known tick-bite. A comprehensive neurological examination shows as only finding a right side peripheral facial palsy (PFP). Routine blood samples are completely normal.

Question B:
Which investigation should be given the highest priority?

a) Cerebral CT
b) Cerebral MRI
c) EEG (electroencephalography)
d) Electroneurography
e) Examination by ophthalmologist
f) PET scan of the brain
g) Lumbar puncture

Question C:
Lumbar puncture was performed and showed the following results: 20 mononuclear cells/uL (<5 cells/uL), 95% lymphocytes, protein 0.6 g/L (0.1-0.4)

Which initial management is most adequate?

a) **Antibiotic treatment**
b) Antiviral treatment
c) Intravenous steroids
d) Intravenous Immunoglobulin (IVIG)
e) Supportive treatment only

Gastroenterology 10

Oppgaven er modifisert fra oppgave hentet fra Geeky Medics.

A 3-year-old boy presents to the emergency department with vomiting and diarrhoea. He has passed large quantities of loose stool, 7-8 times each day for the past two days. This is associated with a reduced number of wet nappies. He has no prior medical history, and his development is unremarkable. He weighs 13 kg.

On examination, he is alert, afebrile and has sunken eyes. He has a heart rate of 158bpm; capillary refill time <2 seconds and blood pressure of 100/80mmHg. He has a 5% fluid deficit.

Question (MC):
What is this patient's total fluid requirement for the next 24-hour period in order to replace deficit and maintain balance?

a) 1200 ml
b) 1800 ml
c) 2400 ml
d) 3000 ml
e) 3600 ml

Diabetes 3 A+C

A 14-year-old, previously healthy boy comes to the GP Emergency Room (Legevakten) with his mother because of nausea, vomiting, abdominal pain and reduced general condition during the day. Last three weeks he has been less active and he has been drinking much more than usual. He responds normally when addressed but complains of blurry vision. He seems dehydrated, has dry lips and is thirsty. He has no fever but breathes rapidly (50/min).

The most likely diagnosis is diabetes. Transport to hospital takes about one hour.

After a few minutes you receive the following lab-results:

Haemoglobin	16.1	10.7-16.5
Leucocytes	11.4	3.6–9.3
Trombocytes	455	145 – 450
Glucose	17.9	4.0 – 6.0
Sodium	134	137 – 145
Potassium	5.9	4.1 – 4.7
CRP	< 0.6	0.0 – 4.0
Creatinine	76	37-72
Blood urea	6.9	1.6-4.6
pH	7.14	7.36 – 7.44
Bicarbonate	14	22-26
pCO_2	3.5	4.7–5.9
BE	–11.4	–3–3
Urine dip-stix:	Glucose 4 +	
	Ketones 2 +	
	(negative for the rest)	

A. Which three of the present findings establish the diagnosis of diabetic ketoacidosis?

- **a) Plasma glucose (elevated)**
- b) Urine dip stix glucose (strongly positive)
- **c) Urine dip stix ketones (positive)**
- d) Serum sodium (low)
- e) Serum potassium (elevated)
- f) Serum urea (elevated)
- **g) Blood pH (reduced)**
- h) Blood carbon dioxide (reduced)

C. Which two complications are particularly important to be aware of and avoid during the next 24 hours?

- **a) Brain edema**
- b) Cardiac failure
- c) Pancreatitis
- d) Renal failure
- **e) Hyponatremia**
- f) Hyperkalemia

Questions from Gynecology

You work as a resident at the Gynecological department. A 24-year-old female patient presents to the emergency department with lower abdominal pain. She describes the pain as severe and explains that it came on progressively over the last day. The patient adds that the pain sometimes radiates to her shoulder tip and that she has vomited once since her symptoms began. On further questioning, she comments that her last menstrual period was 7 weeks ago. Her serum hCG level is high (5100 IU/L), and a transvaginal ultrasound detects an adnexal mass separate to the ovary measuring 36 mm and intra-abdominal blood clots.

Which of the following is the most appropriate management for this patient?

- A) Observation only
- B) Oxytocin
- **C) Laparoscopic salpingectomy**
- D) Misoprostol
- E) Methotrexate

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A 35-year-old woman comes to your general practitioner's office. She is pregnant and has performed an early ultrasound one week ago showing a six-week viable intrauterine pregnancy. A day later she started to have a scant bleeding up until yesterday when she started to experience a lot of pain and passed a larger clot. Thereafter she has again only experienced scant bleeding. She is hemodynamically stable. You tell her that she probably has experienced a spontaneous abortion.

What more can you tell her?

A) She needs to be referred to the hospital for a surgical evacuation of the uterine cavity.
B) She needs to be referred to the hospital for a medically induced evacuation of the uterine cavity.
C) The most likely cause of her spontaneous abortion is a uterine malformation.
D) This is probably a complete spontaneous abortion, and no more interventions are necessary

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You are a GP. Your patient is a 45-year-old woman who is previously healthy and has 2 children. Both deliveries were normal vaginal deliveries. The last five years, she has experienced increasing problems with urinary incontinence. She does pelvic floor muscle exercise almost every day.

You ask her questions to find out which type of urinary incontinence she has. She tells you that she has urinary leakage when sneezing or coughing and when she is exercising (gym, jogging, running, jumping).

What type of urinary incontinence does she have?

A) Urgency incontinence
B) Stress incontinence
C) Mixed incontinence
D) Overflow incontinence
E) Continuous incontinence

You are a GP. A woman (28) and a man (31) come to see you. They have been a couple for 6 years, and they wish to have a child. However, despite having sexual intercourse regularly for the past three years, they have not become pregnant.

She has never been pregnant before. Her height is 160 cm, and her weight is 87 kg. Her menstrual periods are irregular and infrequent (occur every 2 – 6 months). You see that she has recognizable facial hair on the upper lip. A semen sample from her partner is normal.

What is the most likely reason for her infertility? Choose one answer.

A) Uterine factor infertility
B) Tubal factor infertility
C) Polycystic ovarian syndrome (PCOS)
D) Unexplained infertility

Questions from Obstetrics

A 35-year-old woman pregnant with her first child comes into your GP's office. She is 10 week pregnant. She is pale and says that she feels dizzy every day. Your examination shows hemoglobin 10.1 g/dL (ref >11.7 g/dL), ferritin 10 µg/L (ref>20 µg/L).

Which management is most appropriate?

A) Reassurance that iron deficiency and dizziness are normal in the first trimester
B) Start iron substitution based on the present information
C) Extended lab-investigation of potential causes of anemia is needed

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You are a GP. A first-time pregnant woman in gestational week 25 comes into your office. She says she feels shortness of breath and sometimes almost faints when she suddenly stands up.

Which claim is right:

A) Pregnant women have low systemic vascular resistance, which is compensated by increased stroke volume and heart rate

B) Pregnant women have a lower cardiac output compared to non-pregnant women. This change is compensated by increased peripheral vasoconstriction to keep the blood pressure stable

C) The heart rate in pregnant women is higher in the first than the third trimester of pregnancy