Eksamen IID engelsk 2015 høst MD4041
Eksamensdato: 2015-12-07
1 You diagnose a 3-month old baby boy with an umbilical hernia. The parents say that the boy cries a lot and that the hernia then gets large and tense. They are worried that this is dangerous for him. What should you do in this case?

A You tell the parents to make sure the boy doesn’t cry to avoid the hernia bulging
This is not correct information.

B You refer the boy to Paediatric surgery for an immediate operation to avoid incarceration.
This is not necessary for a benign condition.

C X You tell the parents that this is nothing to worry about, and explain that it is not dangerous and will most probably heal by itself.
This is the correct answer

D You prescribe a suspensory (herinal bandage) to prevent the hernia from bulging.
This is not the correct treatment.

2 As a general practitioner you are examining a 2-year old child who has had a cough and fever for one day. What should you focus on when examining the child?

A Whether the child has a diagnosis of asthma.

B X The severity of breathing problems.

C Whether there are audible crackles at auscultation of the lungs.

3 A premature child is born with a gestational age of 25 weeks. The birthweight is 595 g. On the second day of life, a cerebral haemorrhage occurs resulting in dilatation of the ventricular system. What is the correct severity grading of such a bleeding (IVH)?

A X Grade 3
This type of IVH (Intraventricular Haemorrhage) results in bleeding that ruptures into the ventricles (but not the cerebral parenchyma) and is so severe that it causes dilatation and enlargement of the ventricular system. About 50% of premature infants with this type of haemorrhage develop severe neurological sequelae.

B Grade 4
In this case, the haemorrhage often results in ventricular dilatation but, in addition, involves the cerebral parenchyma.

C Grade 1
Incorrect. This is the mildest form of IVH bleeding in premature infants

D Grade 2
Incorrect. This haemorrhage grade does not result in ventricular dilatation

4 The parents of 8-month old Anja come to you, the doctor at the Infant Welfare Clinic, because they have noticed episodes lastings a few seconds when Anja’s body suddenly becomes rigid and she seems to stare vacantly into space. These come in series, and she can have several episodes in one day. In-between the episodes, she behaves as she normally does. What sort of episodes are these?

A Absences
Come singly

B Tonic-clonic seizures
Do not fit

C Complex partial seizures
Do not come in series

D X Infantile spasms
Typical debut age and description of the episodes
You are called to an emergency Caesarian. The child is born at term, and the amniotic fluid is clear. The child is surprisingly floppy and pale at delivery. When the child is placed on the asphyxia table, you note that the child makes no effort to breathe by itself. You dry and stimulate the child and find a heart rate of around 20/min.

Which action(s) should you start first?

A. You ventilate the child using a mask, and immediately start heart compressions 3:1.
   Ventilating the child is correct, but this must be done for 30-60 sec before re-evaluating, and then starting heart compressions if necessary.

B. You suck the amniotic fluid from the mouth and nose and start ventilation with a mask.
   In this case, time should not be wasted removing amniotic fluid. This should not be done unless it can be seen that there is blockage of the airways. Based on the presenting medical history, this is highly unlikely, and ventilation should be started promptly.

C. You start ventilation with a mask, and re-evaluate after 30-60 sec.
   The first and most important element of resuscitation of a newborn child is to get air into the child. With this presenting history, ventilation with a mask is the correct first action to take.

D. You suck amniotic fluid from the mouth and nose, and start heart compressions 3:1.
   This is not correct; the child must always be ventilated first.

It's a Sunday night at the A&E Centre and you receive a call from the mother of a 14-year old girl. The girl says that the night before (8 hours earlier), she got completely drunk and had a “black out”. The girl woke up not wearing her pants, and she is afraid she could have been raped. The mother does not know what to do, is in despair, and asks for help.

What is the first thing you should do?

A. Contact the Child Social Welfare Services.

B. Ask the mother to contact the GP on Monday to get medical help and further follow up.

C. Ask the mother to keep the clothes the girl was wearing, and then make sure that the girl has a medical examination to secure any biological traces and medical help as an emergency case.

D. Ask the mother to contact the police at once to report the matter.

The doctor at the Infant Welfare Clinic is asked to assess the growth of a 4-year old girl who has dropped to the 10th percentile after having been on the 50th percentile her whole life (see Fig.). The mother's height is 160 cm and the father's height is 170 cm.

How should the doctor evaluate this growth pattern compared with the presenting history?
A The growth pattern is deviant and most compatible with growth hormone deficiency.

B Growth varies from year-to-year and the girl's height should be checked annually in the future.

C X The growth pattern is pathologic, and the girl must be investigated further for an underlying disease.

D The growth lies within the girl's genetic potential and therefore does not need further investigation. *Incorrect answer. She has crossed 2 percentiles, and the growth pattern is thus pathologic. The fact that both the 50th percentile and the 10th percentile fall within the mean parent height (genetic potential) is therefore irrelevant.*

8 What sort of toxin causes the skin disease Bullous impetigo?

A X Exfoliative toxin fra Staphylococcus aureus

B Exfoliative toxin from Streptococcus pyogenes

C Erythrogenic toxin from Staphylococcus aureus

D Erythrogenic toxin from Streptococcus pyogenes
9. You are on-call at the Paediatric Clinic. At about 23:00 you have a call from the police who say that a 12-year old girl has been attacked two hours earlier by a slightly older youth. It is unclear what has happened, but the police suspect she may have been raped. The police request assistance with further management of the girl. The girl appears to be physically unharmed to the police. What should you do?

A. You ask the police to call the Child Social Welfare Services so they can assist the child and her family.
B. Since the girl appears to be physically unharmed she should come to the Paediatric Clinic the following morning for examination and trace sample collection.
C. **You admit her to the Paediatric Clinic the same night for examination and trace sample collection. Trace sample collection is a typical emergency help procedure and must not be postponed.**
D. You ask the police to send her to the Walk-in Clinic so that they can assess her there.

10. Why does WHO recommend that all countries should vaccinate against measles?

A. **Because in the recovery phase, unvaccinated children have an increased risk of pneumonia. Measles results in a temporary immune system impairment which increases the risk of bacterial infections.**
B. Because measles in pregnant women in the first trimester can result in serious malformations in the fetus. Incorrect (this is correct for rubella)
C. Because measles is a nasty virus infection that can result in male sterility. Incorrect (this is correct for mumps)

11. A 2-year old boy attends for follow-up of his heart condition. At clinical examination, you hear a grade 3/6 high-frequency ejection-like systolic murmur in the upper right sternal border radiating to the carotid vessels. What is the most probable diagnosis?

A. Aortic insufficiency Incorrect answer. Has a diastolic murmur
B. Aortic stenosis **Correct answer. Has a murmur described as radiating to the carotid vessels**
C. Patent ductus arteriosus (PDA) Incorrect answer. Has a machine-like murmur in both the diastolic and systolic phase
D. Pulmonary stenosis Incorrect answer. Has a systolic murmur radiating to the back

12. An 18-month old boy comes to the Outpatient Clinic due to delayed development. During your examination you notice that he has striped bruises on his left cheek with no clear medical history. You order an X-ray of the total skeleton as emergency help, and find that the boy has 3 old, costa fractures. What should you do?

A. You admit the boy to the Department for observation, and you also tell the parents that this must be investigated and that you suspect the injuries are deliberate.
B. You admit the boy to the Department and send a note to the Child Social Welfare Services. You also inform the parents of your suspicions and what you are doing.
C. **You admit the boy to the Department as emergency help and call the Child Social Welfare Services but without informing the parents of your suspicions and what you are doing.**
D. Let the boy go home but contact the Infant Welfare Clinic for further follow up, and you send a note of concern to the Child Social Welfare Services the following day.
13 Ultrasound examination of the hips in a newborn girl reveals hip dysplasia. Of the information relating to the pregnancy and birth which is the most probable reason for performing the ultrasound examination after the birth?

A  The baby was born prematurely before week 34.
B  The mother had a Caesarian section.
C  An uncle was born with hip dysplasia.
D  X The baby was in the breech position.

14 Ola is 3.5 years old. He was admitted to the Paediatric Department for 2 days with obstructive bronchitis and breathing problems. He was shown to have a rhinovirus. He received treatment with inhalations. He was discharged from hospital 8 weeks ago and has since used Salbutamol inhalation with a hand-bulb for 1-2 weeks, and then as required. Ola and his father attend your practice for a check-up. The father says that Ola has gradually got better, but that he still coughs a lot at night. He has wheezing noises in his chest every other day that is treated successfully with Salbutamol 2 doses x 2. Clinical examination reveals normal findings.
What should you do?

A  You increase the dose of Salbutamol to 3 doses x 4 daily regularly for 4 weeks, before a new check-up.
Incorrect answer. Since the boy has persistent and frequent symptoms, these are signs of inflammation in the lower airways. Increasing the dose of Salbutamol further is not adequate treatment.

B  You check CRP and give a course of antibiotics if CRP >50 mg/L for suspected bacterial infection.
Incorrect answer. Ola has not had a fever, and the results of clinical examination are normal. Bacterial infection is therefore not very probable.

C  X You start regular treatment with an inhalation steroid every morning and evening before check-up in 4 weeks.
Correct answer. Persistent symptoms indicate inflammation in the lower airways. Inhalation steroids will be able to suppress the inflammation after a few weeks of treatment.

D  You give a course of peroral steroids for 3 days to suppress the symptoms before check-up in 7 days.
Incorrect answer. In most cases, a course of peroral steroids is given to children who have an obvious obstruction at examination, and it is not the first choice of treatment.
15
A 2-year old boy comes to your doctor's office together with his mother. Since the age of 6 months he has had some small dry spots on his skin which in the autumn and winter can have the appearance of atopic eczema. He has eaten and drunk normal food since the age of 1, including eggs and milk. Intake of a lot of milk and eggs does not affect his skin. He is otherwise perfectly healthy. His mother feels his skin has become drier and that he gets a brief, red-flaming rash in his face and slight diarrhoea when he eats a lot of oranges, tomatoes and strawberries. She wants the boy to be examined for allergies to explain this.

What should you do?

A You recommend a diet without eggs and milk for 4 weeks because these foods are the most common allergens at this age. The boy does not require further investigations.

Incorrect answer. The child’s diet has contained eggs and milk the whole time without exacerbation of the skin or other allergy symptoms. Even though allergy against egg and milk (type I, IgE mediated) is the most common at this age, he does not have the typical symptoms (eczema with exacerbation at intake of these foods and/or other allergy symptoms e.g. diarrhoea, stomach ache, vomiting, asthma, swollen lips, urticaria). Starting a special diet based on his symptoms is incorrect. If there is an increased suspicion of allergy to eggs and milk and other symptoms, this can be investigated using blood samples or prick test. This investigation should preferably be completed before starting a diet.

B You suspect pollen allergy with development of oral allergy syndrome against oranges, tomatoes and strawberries. You refer for a prick test to investigate this further.

Incorrect answer. The prick test explains whether there is a type I IgE mediated reaction. In most cases, symptoms of pollen allergy develop some time before the symptoms of oral allergy syndrome. The boy has not had symptoms of pollen allergy, and he is also younger than the age at which children normally develop pollen allergy. Neither are his symptoms similar to the most common symptoms of oral allergy syndrome. The referral to the prick test is therefore not correct based on symptoms and age, and in addition will most probably be negative without providing any explanation.

C You take blood samples for specific IgE against tomatoes, oranges and strawberries. You arrange a follow-up appointment after the results of the blood tests are through.

Incorrect answer. IgE mediated allergy against tomatoes, oranges and strawberries is not common. If an IgE mediated allergy was present, the boy would have had other allergies and stronger symptoms than those described. Taking blood samples for IgE analysis based on the boy’s mild symptoms is unnecessary and would most probably be negative without providing any explanation.

D X You recommend that the boy eats less of the histamine-containing foods tomatoes, oranges and strawberries. You agree they contact you again if the problems do not improve.

Correct answer. The boy’s symptoms are relatively common in connection with intake of foods that are rich in biogenic amines. The symptoms are mild and non-harmful. No tests can clarify this, because these food reactions do not involve the immune system. The best advice is to limit the intake of foods for a period to see what effect this has.

16
Which of these statements is correct with regard to febrile seizures?

A Severe infections are the most common cause of febrile seizures

B Febrile seizures affect about 15% of all children

C Febrile seizures are most often seen in children aged between 4 and 5

D X Most children who have febrile seizures, only have one episode
17
Kari is 5 years old, weight 20kg and has a nut allergy. At a birthday party where they served cake, she suddenly became red in the face, distant, and started gasping for breath. The emergency services doctor arrived quickly and is going to administer adrenaline. What dose should the doctor give?

A Adrenaline 0.1 mg/ml at a dose of 2 ml i.v.
B X Adrenaline 1 mg/ml at a dose of 0.2 ml i.m. The correct dose is 10 microgram/kg x estimated weight about 20 kg = 200 microgram which is given as 0.2 ml of a 1 mg/ml solution (“regular adrenaline”) i.m.
C Adrenaline 0.1 mg/ml at a dose of 0.2 ml i.m.
D Adrenaline 0.01 mg/ml at a dose of 0.2 ml i.m.

18
Why is it important to offer a newborn baby with hyperbilirubinaemia extra food?

A Extra food increases conjugation of bilirubin.
B Extra food increases elimination of bilirubin from the liver.
C X Extra food reduces the uptake of bilirubin from the intestines. Correct answer: Reduces the enterohepatic circulation
D They need the extra calories and fluid for phototherapy.

19
Which of the following treatments is not recommended in cases of acute bronchiolitis?

A X Penicillin to prevent bacterial superinfection in children < 3 months. Bronchiolitis is viral and almost never requires treatment with antibiotics.
B Inhalation of saline as required in children during hospitalisation. First choice in Norway if there is a need for inhalation.
C Inhalation of adrenaline as required in children during hospitalisation. Used as second choice in Norway.
D Frequent saline flushing of the nostrils to keep the airways open. Important in everybody to facilitate problems breathing.

20
Mrs Hansen’s newborn girl weighs 5,200 gram. Mrs Hansen has type I diabetes. What is the main reason why the girl is such a big baby?

A X Increased glucose supply to the fetus results in increased insulin production which gives increased growth.
B Increased insulin in the mother’s blood results in increased insulin in the baby and increased growth. Incorrect. Insulin does not cross the placenta.
C High blood sugar in the mother has resulted in high blood sugar in the baby and thereby increased growth. Incorrect. High blood sugar in the mother does not result in high blood sugar in the baby but increased insulin in the baby, which results in increased growth.
D Increased blood sugar in the baby results in increased production of growth hormone and increased growth. Incorrect, the baby’s blood sugar does not increase, but insulin production increases.
21
As a house physician, you examine a 15-year old boy with headaches. He has had episodes with pronounced headache for the last 6 months, occasionally associated with nausea and light sensitivity. The headache often occurs in the afternoon. His mother has migraine. At clinical examination, the patient is afebrile, normal conditions in the airway, normal heart, lungs and abdomen. Normal neurological status.
What is the most probable diagnosis?

A  Encephalitis
   Medical history and findings indicate strongly that this is not encephalitis. Encephalitis does not come in repeated episodes. Generally, fever and impaired general health are also present. Altered consciousness, stiff neck and focal neurological symptoms (hemiparesis and seizures) can also be present.
B  X  Migraine
   Highly probable diagnosis. The presenting history is typical for migraine and there is migraine in the family. Normal neurological status fits with migraine.
C  Cerebral tumour
   Absence of several symptoms of high intracranial pressure (morning headache, nausea/vomiting, vision problems) and normal neurological status argue strongly against a brain tumour. Migraine and tension headaches are very common in this age group, while brain tumours are very rare.
D  Tension headache
   Tension headaches are very common, can be accompanied by neck pain and other muscle tension and stress, but does not have to be. Nausea and light sensitivity are more common with migraine. Children and young people often have a mixture of migraine and tension headaches.

22
Ole (9-years old) has had a seizure. As the emergency clinic doctor, you visit him at home two hours later when his parents tell you that he has been in bed for 5 days due to a high fever and sore throat. He has slept a lot, been dizzy when he has been up and has eaten little. While he was lying in bed his body suddenly became rigid, he lost consciousness and had spasms in his arms and legs. The episode lasted 2 – 3 minutes. When you examine the boy he has a very high temperature of 40 degrees; he does not have any neck stiffness nor rash, but he is slightly difficult to make contact with and appears lethargic. He complains of a headache.
What is the most probable diagnosis?

A  Bacterial meningitis
   The duration of the symptoms and absence of neck stiffness indicate that this is not bacterial meningitis.
B  X  Viral encephalitis
   Correct answer. He has been febrile for several days and now has cerebral symptoms (not alert - lethargic) and he has passed the normal post-ictal period, and he does not have neck stiffness.
C  Febrile seizures
   The boy is outside the age range for febrile seizures (too old)
D  Epilepsy
   He has had a GTC seizure, but to be able to make the diagnosis, he must have two non-provoked seizures - in this case the seizure has been provoked by the fever and poor general health.

23
What are the deciding criteria for choosing surgery or radiotherapy as the primary treatment for cervical cancer?

A  X  Extent of the disease: within or outside the cervix
B  Metastatic lymph nodes: presence or absence at CT/MRI
C  Histologic type: squamous epithelial carcinoma or adenocarcinoma
D  HPV status: presence or absence of HPV 16/18 in tumour tissues
CO2 is transported by passive diffusion across the placental barrier. What is the balance between pCO2 in the mother and fetus?

A The pCO2 balance varies; when the fetus is active the pCO2 is highest in the fetus, and when the mother is physically active pCO2 is highest in the mother.
B pCO2 is highest in the mother
C X pCO2 is highest in the fetus. CO2 is formed in the fetus as a metabolic waste product, and the fetus must eliminate CO2 via the placenta and the mother. pCO2 is highest in the fetus (pCO2 ≈ 5.3 kPa) and diffuses passively across the placental barrier and into the mother’s circulation (pCO2 is about 4.0 kPa in pregnant women). This transport must take place continuously.
D pCO2 is almost the same in the mother and fetus.

Which form(s) of gynaecological cancer have an increased incidence in HNPCC carriers (HNPCC = hereditary nonpolyposis colorectal cancer or Lynch syndrome)?

A Cervical cancer and endometrial cancer
B Cervical cancer
C X Endometrial cancer and ovarian cancer
D Endometrial cancer

Ovulation and menstruation are regulated via interactions and negative feedback system between the hypothalamus (GnRH), anterior pituitary (FSH and LH= gonadotropins) and the ovaries (oestradiol, etc.).

What is the most probable causal mechanism of a 2 years period of total amenorrhoea in a young and very underweight woman?

A X Hypogonadotropic hypogonadism (very low FSH, low LH and low oestradiol)
Yes, the most probable diagnosis is anovulation/amenorrhoea that is seen with anorexia nervosa, etc. The cause is central inhibition of GnRH and consequently too little gonadotropins to stimulate ovulation.
B Normogonadotropic hypogonadism (i.e. normal FSH and LH)
No, polycystic ovarian syndrome is not the probable cause in this woman
C Hypergonadotropic hypogonadism (i.e. high FSH, high LH and low oestradiol)
No, premature ovarian failure/premature menopause is extremely rare in women younger than 21 years of age.
D Positive serum and urinary hCG (human chorionic gonadotropin)
Not probable that the woman is pregnant.

A 60-year old woman requests a referral for annual screening with vaginal ultrasound and CA125 measurement for early detection of ovarian cancer (screening). You refuse giving the following reasons:

A The screening method cannot distinguish ovarian cancer from a benign tumour in the pelvis
B Ovarian cancer treatment includes chemotherapy, therefore the time of the diagnosis is not important
C X Most cases of ovarian cancer spread to the peritoneum right from the beginning, therefore screening is not effective
D Ovarian cancer is most often detected early due to the symptoms, so screening is not necessary
If a patient has attacks of migraine mostly initiated with visual disturbances, you may recommend the following contraceptives:

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<tr>
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<th>Recommendation</th>
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<tbody>
<tr>
<td>A</td>
<td>Low dose combined pill (oestrogen and progestogen)</td>
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<td><strong>Even though it is a &quot;low dose&quot; oestrogen this is contraindicated in migraine with an aura.</strong></td>
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<td>B</td>
<td>Transdermal contraception (Evra)</td>
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<td></td>
<td><strong>This is a product that also contains oestrogen and is contraindicated in migraine with aura.</strong></td>
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<tr>
<td>C</td>
<td>Progestin-only contraceptive pill Cerazette</td>
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<td><strong>Cerazette contains only a progestin (desogestrel) and is not contraindicated for women with migraine with aura.</strong></td>
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You are the GP for a 29-year old woman who has been for a routine cervical cytology test. You have found only normal findings at the gynaecological examination. You now have got the results of the cervical cytology test which reveal high-grade squamous intraepithelial lesion (HSIL). What is the most correct next step?

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<tr>
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<th>Next step</th>
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<tbody>
<tr>
<td>A</td>
<td>Refer for histological sampling from the cervix</td>
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<td></td>
<td><strong>Correct answer. It is important to diagnose any premalignant lesions so that the patient can receive treatment.</strong></td>
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<tr>
<td>B</td>
<td>Make an appointment for follow up with HPV test within 1 month</td>
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<td><strong>The patient must be referred for portio biopsies</strong></td>
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<tr>
<td>C</td>
<td>Make an appointment for follow up cervical cytology in 6 months</td>
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<tr>
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<td><strong>The patient must be referred for portio biopsies</strong></td>
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<tr>
<td>D</td>
<td>Make an appointment for follow up cervical cytology in 3 years</td>
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<tr>
<td></td>
<td><strong>The patient must be referred for portio biopsies</strong></td>
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A 40-year old woman has contacted you as a GP due to some diffuse complaints in her upper abdomen. You have sent her for a CT scan of the abdomen. According to the CT report, there are multiple round tumours in the uterus compatible with uterine leiomyomas, each of which is between 2 cm and 6 cm in diameter. She has no complaints in the pelvis. What do you do?

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<tr>
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<th>Action</th>
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<tbody>
<tr>
<td>A</td>
<td>You inform the patient of the findings and tell her to contact a doctor if her periods get heavier or she gets pelvic pressure symptoms.</td>
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<tr>
<td>B</td>
<td>You refer her for an MRI of the abdomen/pelvis since MRI is better for assessing the malignancy risk of uterine leiomyomas</td>
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<td><strong>It is correct that MRI is best for assessing the malignancy risk of uterine leiomyomas, but it is a waste of resources as the malignancy risk is very small (about 1%), and even an MRI cannot definitely exclude it.</strong></td>
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<tr>
<td>C</td>
<td>You refer her to a specialist (gynaecologist) to evaluate whether hysterectomy should be performed because you expect the myoma to increase in size until the menopause.</td>
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<td><strong>As long as the patient does not have symptoms, there is no need for (preventive) surgery or other actions</strong></td>
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<tr>
<td>D</td>
<td>You plan annual follow up of the patient to assess whether the myomas increase in size.</td>
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<td><strong>As long as the patient does not have any symptoms, and the patient does not want to become pregnant, there is no need for a treatment - therefore there is no need for a follow-up either.</strong></td>
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</table>
The patient is Para 1 and now 28 weeks pregnant. You were her GP during her first pregnancy and she came to you for check ups - all results were normal. However, for that labour she got contractions three days before term and was delivered by a Caesarian section due to imminent fetal asphyxia. The baby was a girl weighing 2,700 gram, with normal Apgar score and umbilical cord pH. In the discharge summary from the hospital there is nothing about follow-up in any subsequent pregnancy. Again, in the current pregnancy, all pregnancy parameters are normal, including normal SF measurements. How do you plan further follow up?

A  Follow the standard pregnancy check ups.
B  Call her in for frequent check ups with SF measurements.
C  X  Refer to the Maternity Unit for fetal growth assessment and follow up. *Fetal growth is monitored by repeated ultrasound measurements*
D  Call her in for frequent check ups with BP measurements.

Sikre perioder er de dagene av en menstruasjonssyklus der en kvinne har mindre sannsynlighet for å bli gravid. Dag 0 kan defineres som dagen for eggløsning, negative dager som antall dager før eggløsningen og positive dager som antall dager etter eggløsningen.

Hvilke av følgende tidsintervaller i løpet av en mensstruasjonssyklus på 28 dager er mindre "sikre" hva gjelder risiko for å bli gravid?

A  X  Dag -5 til 0
B  Dag -5 til +2
C  Dag -7 til +2
D  Dag -3 til +3

The patient is in her third pregnancy in week 24. She has previously twice given birth prematurely, in week 31 and week 29. Both babies had normal birth weight relative to gestational age. She is now followed up by her GP and a private consultant gynaecologist. She now has got back ache and says she has a feeling of downward pressure. She contacts you, her GP.

What is the most correct course of action here?

A  Allay her worries, wait and see how things develop and call her back in about 2 days
   *First, it must be determined if there are signs of premature labour - if not, then you can allay her fears.*
B  Send her to the private consultant gynaecologist
   *This would cause a delay and offers no form of treatment.*
C  Investigate whether she has a urinary tract infection and treat this
   *It is important to treat a urinary tract infection early, but first it must be determined whether this is a sign of a premature labour*
D  X  Contact the Maternity Unit for further assessment
   *Correct. Transport to the hospital is the correct level for making a diagnosis, for administering steroids for lung development, tocolytic medicines and antibiotics if necessary.*
34
You are the GP for a 40-year old woman, Para 2. In the first pregnancy she had a Caesarian section in week 32 due to severe pre-eclampsia. In the current pregnancy she took Albyl-E (acetylsalicylic acid) 75 mg x 1 from week 12 as prophylaxis for pre-eclampsia. She now attends you for her postpartum check up and her blood pressure has normalized.
Based on her medical history, what is the most correct information to give her at the postpartum check up?

A That, because of her severe pre-eclampsia, she should continue to take Albyl-E (acetylsalicylic acid)
Albyl-E is only used to improve placentation and is not indicated for use after the end of the pregnancy.

B That she is not at any risk of cardiovascular disease because she has not had HELLP
Even though she has not had HELLP, pre-eclampsia gives an increased risk of cardiovascular disease later in life.

C X That she should be followed up due to her risk of cardiovascular disease later in life
CORRECT. Women who have had pre-eclampsia have an increased risk of developing cardiovascular disease and should be followed up for this.

D That she is not at any risk of cardiovascular disease because her blood pressure has normalized

35
A healthy woman, Para 3, all normal pregnancies; 2 normal vaginal deliveries and 1 Caesarian section. She is now pregnant again. Routine ultrasound in week 18 revealed placenta on the anterior wall and placenta previa which was later confirmed by ultrasound follow up in week 32.
Which risk should you be most aware of with this woman?

A Hypertension
Placenta previa is not associated with hypertension in pregnant women.

B Vasa previa
The uterine cervical os is covered by placenta; it is therefore not possible to have free membranes with vessels (vasa previa) above the internal uterine os.

C Growth retardation of the fetus
Placenta previa is not associated with growth retardation of the fetus.

D X Placenta accreta
Correct answer. A woman who has had a previous Caesarian section has an increased risk of placenta accreta. The risk of abnormal, invasive placenta increases 7 times after one previous section and 56 times after 3 or more sections.

36
A woman who has previously been a heroin addict has received methadone substitution therapy over the last years. She is now pregnant and approaching term and continues to receive methadone.
What is reasonable to expect regarding how the mother's medical treatment will affect the baby during the first hours to days after the birth?

A The baby will only rarely be affected after the birth.
On the contrary, after long term acclimatisation to high opioid concentrations, abstinence symptoms will most probably be present.

B The baby will be so nauseous that it will vomit/regurgitate most of the mother's breast milk.
Nausea is a frequent side effect of opioids, but is primarily seen as an acute side effect and is not expected in a newborn baby that has become used to opioids throughout the entire pregnancy.

C Methadone will displace bilirubin from the albumin binding sites resulting in bilirubin crossing the blood-brain barrier and causing core icterus in the baby.
Methadone binds to albumin, but is not present in such high concentrations in the blood that it can displace bilirubin from albumin to any great extent. The methadone concentration in blood will also drop rapidly after the birth.

D X The risk for abstinence symptoms is high, and it will often be necessary to administer opioids to the baby to suppress these symptoms.
Correct answer
A woman operated for endometrioid adenocarcinoma in the uterine body asks you which symptoms she should be aware of if the disease residivates. Your answer is that the most relevant symptom in the case of relapse is:

A. Heavy breathing
B. Bleeding from the vagina [Correct answer]
C. Increasing abdominal girth
D. Abdominal pain

New guidelines for management of pregnant women who are Rhesus negative were approved by the Norwegian Directorate of Health in 2015. The most important change is:

A. Rhesus negative pregnant women must be examined using NIPT (non-invasive prenatal testing) of the mother's blood in week 25 to investigate the Rhesus status of the fetus. [Correct answer. It is now possible to demonstrate free fetal DNA in the mother's blood and can thus investigate the fetus' Rhesus status. Prophylactic anti-D prophylaxis during pregnancy should only be administered to Rhesus negative women who are carrying a Rhesus positive fetus. It is expected that this new routine with targeted prophylaxis will reduce the number of women who develop immunisation during the pregnancy.]
B. The birth must be induced in week 38 for all Rhesus negative women in order to reduce the risk of immunisation in the fetus. [Incorrect. Severe anaemia can develop early in the pregnancy.]
C. Rhesus negative women must have routine blood flow measurements with Doppler ultrasound in week 28. [Incorrect. This Doppler measurement is recommended for women in whom fetal anaemia is suspected.]
D. All Rhesus negative pregnant women must have prophylactic treatment with anti-D in the third trimester [Incorrect. This was proposed previously, but targeted prophylaxis treatment for Rhesus negative women carrying Rhesus positive fetuses is preferred.]
A 28-year old woman attends your GP practice because of bleeding during her pregnancy. She has taken two positive pregnancy tests at home. She says that she has a definite date for her last period, and using the “Snurra” you determine that she is pregnant in week 7+2. She is G2 P0. One previous spontaneous miscarriage after 8 weeks' of amenorrhoea. The bleeding that occurred the previous evening was fresh and comparable to that on the first day of a period. Now it is only a brownish discharge. The bleeding was accompanied by menstruation-like pain. Now the bleeding has stopped she has a sticking pain in the right iliac fossa. She has never had a cervical cytology test.

How would you investigate/treat this patient?

A Measure the blood concentration of HCG twice at a 3-7 day interval to determine whether the pregnancy is developing normally or not. Give her an appointment for a cervical smear when the last HCG result is available.

B Perform a gynaecological examination and listen for fetal sounds (using a fetal doppler monitor for normal pregnancy check ups). If you can hear fetal heart beats out to one the sides, this could indicate an ectopic pregnancy and the patient should be referred to the Gynaecology department as an emergency.

C Perform a gynaecological examination to assess the cervix, uterus and adnexae. Take a cytology sample from the uterine cervix. Refer the patient to the Gynaecology department or a private gynaecologist for ultrasound querying an ectopic pregnancy. One-sided low abdominal pain during early pregnancy can be a sign of an ectopic pregnancy. The patient should be referred to a gynaecologist.

D Do not perform a gynaecological examination because she has just had a bleeding, and there is anyway no point in taking a cervical smear because the blood will interfere with the sample. Taking a sample will also provoke a new bleeding. Refer her directly to the Gynaecology department for ultrasound and assessment of the cervix since she is 28 years old and has never had a cervical smear test. You should always examine the patient. She is not bleeding anymore; a cervical smear test can be performed.

Itching is a common symptom in pregnant women. Intrahepatic cholestasis of pregnancy (ICP) is associated with intrauterine fetal death close to term; thus it is important to differentiate between ICP and other causes of itching.

What is the most important diagnostic sign or test for ICP?

A ALAT (Alanine transaminase)
   ALAT is also elevated in women with ICP; however, elevated bile acids is a more specific diagnostic test for ICP

B Itching in the palms and soles of the feet is enough as a diagnostic test
   Itching in the palms and soles of the feet is the typical clinical sign, but the diagnosis should be confirmed by the presence of increased levels of bile acids.

C X Bile acids
   Correct answer, bile acids is the specific diagnostic test.

D Bilirubin
   No, bilirubin is normal or only moderately elevated in early stages of ICP
Pregnant women also need to take medications. Which pharmacokinetic changes during pregnancy must you as the doctor need to be particularly aware of?

A The distribution volume of the drug is reduced, and as a result a higher dose may be necessary. The opposite is (generally) true.
B The most important reason that drugs do not act as expected is because of nausea and vomiting. This is rarely so severe that it affects drug treatment.
C **X** Many medications are eliminated more rapidly and it may be necessary to adjust the dose. Several factors affect this, such as increased activity of drug metabolising enzymes and increased renal perfusion.
D Blood flow through the kidneys is reduced resulting in increased drug blood concentration. The opposite is true.

A mother is concerned about her 16-year old daughter because she has hardly been to school over the last 2 months. She just sits at home, shuns contact with her friends, locks herself in her room and appears apathetic and without energy, motivation and initiative. She has previously functioned normally. When you talk to the girl she tells you about voices that comment on what she does, but she won't say anything else about how she is. You are unsure whether she does not want to, or cannot manage to say anything more. Which statement is the most correct:

A The girl appears to be severely depressed and you should recommend starting with SSRI.
B **X** The girl has possible positive and negative psychotic symptoms and should be investigated for a psychosis disorder. The symptoms described apply to both a severe depression with psychotic symptoms and a psychosis disorder with both positive and negative symptoms. In this case, the girl should be investigated for a possible psychosis disorder to secure the correct treatment.
C The girl appears to be severely depressed and should be investigated for a bipolar disorder.
D The girl should be given better support in the learning situation at school and helped to get back into attending school.

A description of present mental status is included in the assessment of psychiatric disorders in children and adolescents. This must include prognostically important characteristics. Which of the following is emphasised as a particularly important element in present mental status?

A Family situation
B Behaviour in the situation
C Intellectual capacity
D **X** Relational skills. Relational skills are particularly important for functioning in interaction with other people - in the family and among friends, and are thus a prerequisite for functioning in different arenas. Intellectual capacity is associated with mental health functioning in cases with particularly deviating ability levels, and is emphasised to a lesser extent when intellectual functioning is normal. Behaviour and family situation are important for the prognosis, but nevertheless, relational skills are considered to be particularly critical.
Investigation of children with Hyperkinetic disorder (ADHD) involves medical, psychological and pedagogic investigations and testing. Are there any tests/results that are critical for the diagnosis, i.e. pathognomonic?

A Yes, a low score on the sub-test "attention" in the ability test Wechsler Intelligence Scale for Children (WISC) combined with the child meeting the main criteria in ICD-10. *It is correct that the sub-test "attention" in WISC combined with the child meeting the main criteria in ICD-10 provides strong evidence for a possible ADHD diagnosis, but this is not pathognomonic for the diagnosis.*

B No, the diagnosis hyperkinetic disorder is best made based on thorough observation of the child in his or her natural class environment at school. *It is correct that there are no tests available that are pathognomonic for the diagnosis of ADHD, and that observation of the child in the classroom is one of many important steps in ADHD investigation, but it is incorrect that the diagnosis is best made based on this.*

C X No, the diagnosis Hyperkinetic disorder is made after a clinical assessment, and the results of various tests can only be guiding for this decision. *Correct answer. Even though many, and in part extensive, tests are available for investigation of ADHD, there is no pathognomonic test for a definite diagnosis. ADHD is a clinical diagnosis in which the medical history, various investigations and test results are only aids contributing to making the final decision.*

D Yes, a thorough, extensive neuropsychological test battery and demonstration of reduced fine and gross motor skills as well as coordination problems give a definite diagnosis. *Thorough neuropsychological testing that points in the direction of ADHD and demonstration of reduced fine and gross motor skills as well as coordination problems strengthen the possibility of an ADHD diagnosis but in itself does not give any definite diagnosis.*

Stine (11 years old) is inattentive at school and as a preschool child she was very fidgety and impulsive. The teacher has observed that she can suddenly stare absently into space for a few seconds before answering a question. Stine's cousin is taking medicine for ADHD and the cousin's mother was investigated several years ago for "some episodes" without this resulting in any definite conclusion. Today she is healthy. What would you emphasise in the investigation of Stine?

A X You suspect that Stine's «absence» could be an expression of absence epilepsy. You order a 24-hour EEG recording. At the same time you continue the ADHD investigations. *Correct answer. The "absence symptoms" described could well be an expression of an absence epilepsy and with the uncertainty in the medical history associated with Stine's aunt, a 24-hour EEG recording is a good start to exclude this.*

B You do not suspect that Stine can suffer from any form of epilepsy because the picture fits much better with an ADD diagnosis, i.e. attention problems without hyperactivity. *It is correct that the information provided in the vignette could be compatible with an ADD diagnosis, but it is incorrect to assume that they are not compatible with a diagnosis of absence epilepsy.*

C You suspect that Stine's "absences" can be an expression of absence epilepsy, but because there are other more relevant differential diagnoses such as impressive language problems, you exclude these first. *It is correct that impressive language problems can also imitate an ADD disorder and that it is important to check for this, but it is incorrect to assume that language problems are a "more relevant" differential diagnosis than absence epilepsy.*

D You concentrate on the ADHD investigation and perform a thorough medical history. If the investigations do not conclude with a diagnosis of ADHD, you can investigate for epilepsy at a later time. *It is correct to emphasise a thorough medical history, but it is incorrect to assume that "if the investigations do not conclude with a diagnosis of ADHD, it could be epilepsy". An absence epilepsy can imitate an ADD condition, so there is a risk of an incorrect ADD diagnosis being made; furthermore, ADHD and epilepsy can occur together.*
Per (16 years old) has a Conduct disorder. The diagnosis was made based on a number of behavioural characteristics. Which of the following characteristics are among those that are important for making the diagnosis?

A. Opposes changes to routines
   Young people with Conduct disorder can oppose changes to routines, but this is not a diagnostic criterion that is important for making the diagnosis.

B. X Is mean to animals
   Is one of the characteristics that is important (included in the list of behavioural characteristics that must be met) for making the diagnosis of Conduct disorder.

C. Has severe concentration problems
   Young people with Conduct disorder often have concentration problems, but this is not a diagnostic criterion or a characteristic that is important for making the diagnosis.

D. Has been depressed as a child
   Some young people with Conduct disorder have also been depressed as a child, but this is not a diagnostic criterion or a characteristic that is important for making the diagnosis.

Exposure to more than one type of abuse (so-called "poly-victimization") in childhood increases the risk for mental health conditions and problems later in life. To which conditions and problems does this apply?

A. Conduct disorder and post-traumatic stress disorder
   It is correct that "poly-victimization" in childhood increases the risk of conduct disorder and PTSD, but it also increases the risk of anxiety, depression and self-harm.

B. X Anxiety, depression, conduct disorder, self-harm and post-traumatic stress disorder
   Correct answer.

C. Anxiety, depression and self-harm.
   It is correct that "poly-victimization" in childhood increases the risk of anxiety, depression and self-harm, but it also increases the risk of conduct disorder and post-traumatic stress disorder (PTSD).

D. Post-traumatic stress disorder, anxiety, self-harm and conduct disorder
   It is correct that "poly-victimization" in childhood increases the risk of anxiety, self-harm, conduct disorder and PTSD, but it also increases the risk of depression.

Trauma develops when the stresses mentally and/or physically are so dramatic, painful and overwhelming that the brain is not able to relate to them as a normal experience. Which statement best describes the consequences for the person in question?

A. The person does not believe that the event happened
   It is correct that some traumatised individuals feel that "it was all unreal", but this statement is not the one that best describes the consequences.

B. The person has obtrusive memories of the event
   It is correct that some traumatised individuals have obtrusive memories of the trauma they have been through, but this statement is not the one that best describes the consequences.

C. X The person is not able to process and work through the event
   Correct answer. Whether the person develops symptoms in the form of amnesia around the trauma or re-experiences it, or has a sensation of something being "unreal", all these types of reaction are an expression that the person is unable to process and work through the event.

D. The event is remembered only very vaguely
   It is correct that some traumatised individuals have complete or partial loss of memory of the trauma they have been through, but this statement is not the one that best describes the consequences.
49
The multiaxial diagnostic system ICD-10 (International Statistical Classification of Diseases and Related Health Problems 10th Revision) is used in Child and Adolescent Psychiatry. Which other axes are scored in addition to clinical psychiatric diagnoses?

A Motor skills
B Organised leisure time activities
C Psychosocial situation

Axis 1: Clinical psychiatric disorders; Axis 2: Specific developmental disorders; Axis 3: Intellectual disability; Axis 4: Clinical somatic disorders; Axis 5: Psychosocial situation; Axis 6: Global functioning
Thus: School academic performance and motor skills are not scored as such (unless there is a specific developmental disorder in these areas - then this is stated in axis 2: Specific developmental disorders), and neither are organised leisure activities scored. Correct answer is psychosocial situation.

D School academic performance

50
As intern in general practice, you see a 17-year old girl and her mother. The mother tells you that the girl has had problems for a long time, without getting any help. The mother thinks that the school should understand that she has mental problems with poor self image and therefore needs assistance - but the school perceives her as a trouble-maker who often ends up in conflicts with other students as well as teachers. They describe a girl who is temperamental and shows more emotions than most of the other students. In a conversation alone with the girl, the girl talks about having self-harmed for some time; that she does so in order to bear the feelings of internal agitation. She also describes episodes of losing control of her emotions and that she always gets the blame if there are difficulties. She has had suicidal thoughts for a while.
Which statement is most correct:

A The girl has symptoms compatible with emotionally unstable personality disorder and the behavioural patterns should be mapped to ensure the correct treatment
Cf. learning point in the lecture on personality disorder: In cases of emotionally unstable personality disorder and self-destructive behaviour, the behavioural pattern must be mapped using structured investigative tools for personality disorder. This is important in order to plan further treatment in a way that also targets these behavioural patterns/problem areas.

B The girl has symptoms and unstable behaviour which indicates that she should be admitted to psychiatric in-patient treatment

C The girl has symptoms compatible with conduct disorder and needs consistent behaviour-regulating measures

D The girl has symptoms compatible with severe depression and medical treatment with SSRI should be considered.

51
What is attachment and what purpose can it be said to have?

A Attachment is a child’s experience of belonging to a group with family, friends and peers. The purpose is to experience safety and to be protected against external dangers.

B Attachment is the emotional bond that develops between a child and its parents. The purpose is so that the child grows up surrounded by warmth and love.

C Attachment is the term for the emotional bond that the child develops to family and relatives. The purpose is so that the child develops a sense of belonging to his or her closest relatives

D Attachment is the emotional bond between a child and his or her caregivers. The purpose is to give the child comfort, protection and emotional regulation when he or she experiences stress. Attachment is the bond the child develops to his or her caregivers. Evolution theory proposes that attachment develops because the child is dependent on protection and emotional regulation from his or her caregivers in order to survive and to develop sound physical and mental health. The parents’ emotional bond with their child is therefore not covered by this term. Attachment is also defined more precisely than belonging and companionship with family, relatives, friends or others, even though this is also important for the child. The other answers are thus not exactly incorrect, but imprecise.
52 Where do you find metastases in cases of testicular cancer stage 2 after the Royal Marsden classification system?

A X In retroperitoneal lymph nodes below the diaphragm. 
*Comprise the first lymph nodes that the lymph from the testicles drains to.*
B In the lymph nodes in the groin 
*Does not metastatise to the groin*
C In the lungs 
*No organ metastases in stage 2.*
D In retroperitoneal lymph nodes above the diaphragm. If there is lymph node metastasis to the supraclavicular glands, it will be possible to palpate them. 
*This applies for stage 3.*

53 A 53 years old patient comes to your office as general practitioner and wants a regular yearly check-up. Amongst others, you inform him of the possibility to perform a digital rectal examination and to take a PSA. He has no family history of prostate cancer. He is previously healthy.

You palpate his prostate and the prostate is well-defined to the sides, half-elastic in the consistency, and in the midth of the right lobe the is a nodule of 8 mm. His PSA is 1.3 ng/ml. What should you do?

A The patient's PSA is well below the reference (2.7 ng/ml). You are not sure about the nodule to palpate on his prostate and you offer the patient a clinical follow up in 6 months.
B X The patient's PSA is well below the reference (2.7 ng/ml). The patient might have cancer and you refer the patient to a Department of Urology at the local hospital for investigation of his prostate.
C The patient's PSA is well below the reference (2.7 ng/ml). The patient cannot have cancer and you ask the patient to come for a follow-up in 1 year.
D The patient's PSA is well below the reference (2.7 ng/ml). The patient should not have cancer and you ask the patient to come for a follow-up in 2 years.

54 A 27 years old man comes to the general practitioner (GP) with extreme pain in his left scrotum that started 45 minutes ago. What is the most likely diagnosis?

A Epididymitis
B X Testicular torsion
C Thrombosis of a varicocele
D Testicular cancer

55 Per (83 years old) with a history of heart attack undergoes TURP (transurethral resection of the prostate) due to micturition problems (LUTS). Pre-operativ PSA (prostate specific antigen) is 5.0 ng/ml (normal range men > 69 years: 0 - 6.5 ng/ml), and at digital rectal examination (DRE) the prostate is firm and elastic. Histology of the TURP resection reveals adenocarcinoma in 5% of the resected prostate tissue, with Gleason 3+3, score 6.

Which treatment plan would you recommend for this patient?

A Hormone therapy
B Robotic-assisted radical prostatectomy
C X No active treatment, only clinical follow up
D Curative radiotherapy
A 33-year old man was re-admitted as an emergency 4 days after surgery for appendicitis. The operation was difficult with conversion from laparoscopy to open surgery due to bleeding and poor overview. At admission he complained of increasing pain in the right flank and nausea since the day of discharge after the operation. He has cold sweats, chills and is pale. Pulse: 124/min, blood pressure 80/50 and Tp 39.5°C. Blood tests reveal the following:

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRP</td>
<td>220 mg/L</td>
<td>0 - 5</td>
</tr>
<tr>
<td>B-HB</td>
<td>14.2 g/dL</td>
<td>13.4 - 17.0</td>
</tr>
<tr>
<td>B-Leucocytes</td>
<td>15.6 10⁹/L</td>
<td>3.7 - 10.0</td>
</tr>
<tr>
<td>P-Sodium</td>
<td>145 mmol/L</td>
<td>137 - 145</td>
</tr>
<tr>
<td>P-Potassium</td>
<td>4.2 mmol/L</td>
<td>3.5 - 4.4</td>
</tr>
<tr>
<td>P-Creatinine</td>
<td>106 micromol/L</td>
<td>60 - 105</td>
</tr>
</tbody>
</table>

Emergency ultrasound of the abdomen revealed right side hydronephrosis and hydroureter as well as moderate amounts of free fluid in the pelvic cavity. The time is 23:00 in the evening.

What is the appropriate treatment for this patient?

A) The patient should go directly to the operating theatre for explorative laparotomy due to probable postoperative abscess.
B) The patient should be given intravenous antibiotics and referred for ultrasound-guided drainage of abscess in the pelvic cavity.
C) The patient should be given intravenous antibiotics and undergo emergency surgery with insertion of a JJ stent in the right ureter.
D) The patient should be given intravenous antibiotics and undergo emergency insertion of a nephrostomy.

Infravesical obstruction can over time compromise bladder muscle function and lead to increasing residual urine.

Which of the following statements is most correct?

A) Residual urine can lead to urinary tract infections.
B) If the patient has a very large prostate, he should first be treated with either permanent catheter or clean intermittent catheterization.
C) All patients with residual urine should be referred to urodynamic studies before deciding on which type of therapy to recommend.
D) If ultrasound examination of the patient reveals no residual urine, you can conclude that the patient does not have infravesical obstruction.

A 75-year old man who is being investigated for macroscopic haematuria is diagnosed with a 5 cm diameter bladder concrement.

What is the most common predisposing factor for formation of this concrement?

A) High level of uric acid in the urine
B) Chronic cystitis with urease-producing bacteria
C) Renal tubular acidosis
D) High level of calcium oxalate in the urine
59
At a routine check-up for a driver's licence, the urine dipstick test reveals haematuria in a 35-year old woman. A control check-up the following week and two weeks later are also positive for blood in the urine.
What is the appropriate first action?

A  Refer her for cystoscopy and request a prioritized appointment
B  Order a 3-phase CT examination of the urinary tract
C  X  Order ultrasound of the urinary tract, urography and refer for cystoscopy
D  Send a urine sample for cytology and refer for cystoscopy

60
Ove (75 years old) has previously been generally healthy, but now has moderate micturition problems and mild back pain. Investigations by his GP reveal s-PSA 250 µg/L (reference: <5.8 µg/L) and normal s-creatinine and urine dipstix. He is referred to a urologist who finds a hard and lumpy prostate at rectal palpation. Prostate biopsies reveal adenocarcinoma, Gleason 4+5=9. MRI of the pelvis reveals findings compatible with a prostate cancer that has infiltrated the pelvis base with metastases to the sacrum and pubic bones.
Which treatment should this patient be offered?

A  Start immediately with chemical or surgical castration
B  Start immediately with a peroral antiandrogen, and if PSA does not normalise after 12 weeks, supplement with chemical or surgical castration
C  Refer for radical prostatectomy and then start with chemical or surgical castration.
D  Start with 6 courses of docetaxel (chemotherapy) and if PSA does not normalise after this, start chemical or surgical castration

61
Radical prostatectomy, curative radiotherapy and "active surveillance" are current treatment options for prostate cancer. (PSA = Prostate specific antigen, upper limit, highest age group <5.8 µg/L)
Which of the 4 alternatives with disease characteristics in a man with prostate cancer is best suited for "active surveillance"?

A  Clinical T2a, Gleason 4+5=9, PSA 5 µg/L
B  Clinical T2a, Gleason 3+3=6, PSA 6 µg/L
C  Clinical T3a, Gleason score 3+3=6, PSA 5 µg/L
D  Clinical T1c, Gleason 3+3 =6, PSA 22 µg/L

62
Anne (45-years old) has had hypertension grade 1 (BP about 150-155/95) for the last two years. She does not have high cholesterol levels and does not smoke, and has not wanted treatment with drugs. Other diseases she has had include quite severe asthma, but she now functions well. She has switched from her regular GP and now comes to see you. You see that she has an s-creatinine of 85 µmol/L and urine dipstix shows protein 1+. You recommend starting medical treatment.
Which medication should you use and why?

A  Calcium channel blocker (dihydropyridine, e.g. amlodipine) at a moderate dose to dilate the afferent arterioles
B  ACE inhibitor (e.g. lisinopril) at a moderate dose to dilate the afferent arterioles
C  Calcium channel blocker (dihydropyridine, e.g. amlodipine) at a moderate dose to contract the afferent arterioles and thus reduce the urinary protein
D  X  ACE inhibitors (e.g. lisinopril) at a moderate dose to dilate the efferent arterioles
Christoffer (22-years old) contacts the Emergency Unit because of pain in both upper arms over the last two days. He has previously been completely healthy and takes no medicines. He was doing hard training on Monday and Tuesday (cross-fit), but now feels unwell. He is nauseous and has pain in both upper arms (which are tender after the training). Blood tests reveal the following: Hb 16.7 g/dL (ref. 13.4 - 17.0 g/dL), s-creatinine 266 µmol/L (ref. 60 - 105 µmol/L), K 4.9 mmol/L (ref. 3.6 - 4.6 mmol/L), CK 5600 U/L (creatine kinase, ref. 50-400 U/L), s-Troponin T 88 ng/L (ref. <14 ng/L).

What is the most probable diagnosis?

A Randomly discovered renal failure with electrolyte imbalance and effect on neuromuscular function
B X Rhabdomyolysis and acute kidney damage
C Dehydration after over-exertion with subsequent electrolyte imbalance
D Acute heart infarction

What are the most common causes of secondary hypertension?

A Recurring urinary tract infections, prostatic hyperplasia
B Gout, hypercholesterolaemia
C Pheochromocytoma, Cushing's syndrome
D X Sleep apnoea, chronic kidney disease

Assuming constant activity of the angiotensin converting enzyme (ACE) in a hypothetical model of hypertension. What could increased release of renin in the kidneys then result in?

A Increased conversion of angiotensin I to angiotensin II and subsequent reduced aldosterone level
B Reduced conversion of angiotensin I to angiotensin II and subsequent reduced aldosterone level
C X Increased conversion of angiotensin I to angiotensin II and subsequent increased aldosterone level
D Reduced conversion of angiotensin I to angiotensin II and subsequent increased aldosterone level

In case of advanced renal failure hypocalcemia normally is developed. What is this hypocalcemia typically accompanied by?

A X Hyperphosphatemia and high s-PTH
B Hypophosphatemia and high s-PTH
C Hyperphosphatemia and low s-PTH
D Hypophosphatemia and low s-PTH

What is often present in individuals with low birth weight for gestational age (small for gestational age (SGA))? 

A Low number of nephrons and no increased risk of hypertension later on
B High number of nephrons and no increased risk of hypertension later on
C High number of nephrons and increased risk of hypertension later on
D X Low number of nephrons and increased risk of hypertension later on
As intern in the Emergency unit you visit a 69-year old man. He is admitted due to lethargy and reduced general condition. He was treated for a duodenal ulcer with a "triple course" 10 years ago, but is otherwise healthy. Blood tests taken at the Emergency unit show, among others, creatinine 390 umol/L (ref. 60-105 umol/L) and Hb 9.9 g/dL (ref. 13.4-17.0 g/dL). MCH and MCV indicate a normochromic, normocytic anaemia.

What is the most probable cause of the anaemia?

A Bone marrow failure (due to haematologic disorder)
B Iron deficiency (due to duodenal ulcer)
C *Renal anaemia (due to renal failure)*
D Anaemia with chronic disease (due to inflammation)

Advanced renal failure results in many metabolic changes. What are typical findings?

A Hypokalaemia and metabolic alkalosis
B Hyperkalaemia and metabolic alkalosis
C *Hyperkalaemia and metabolic acidosis*
D Hypokalaemia and metabolic acidosis

Nephrotic syndrome is characterised by general oedema and significant changes in blood test results. Which of the following combinations of blood test results belong most probably to such a patient?

(Ref. values: Hb 11.7 - 15.3 g/dL (female), 13.4 - 17.0 g/dL (male), s-creatinine 45 - 90 µmol/L (female), 60 - 105 µmol/L (male), s-cholesterol >=50 years: 3.9 - 7.8 mmol/L, s-albumin 40-69 years: 36-45 g/L)

A Hb 11.2 g/dl, s-creatinine 85 umol/L, s-cholesterol 5.9 mmol/L, s-albumin 62 g/L
B Hb 11.2 g/dl, s-creatinine 85 umol/L, s-cholesterol 5.9 mmol/L, s-albumin 33 g/L
C *Hb 11.2 g/dl, s-creatinine 85 umol/L, s-cholesterol 12.2 mmol/L, s-albumin 23 g/L*
D Hb 13.2 g/dl, s-creatinine 185 umol/L, s-cholesterol 6.9 mmol/L, s-albumin 28 g/L

In which one of the following patients would you consider performing a renal biopsy to determine the basis for the patient's renal dysfunction?

(Ref. values: eGFR: >90 mL/min/1,73m², u-albumine/creatinine ratio < 2,5 mg/mmol creatinine)

A *A 41-year-old patient with type 2 diabetes with a 6-month history of reduction of eGFR from 67 ml/min/1.73 m² to 38 ml/min/1.73 m², urinary albumine/creatinine ratio of 310 mg/mmol (increased from 30 mg/mmol 6 months ago) and hypertension requiring three antihypertensive agents.*
B A 54-year-old patient with type 2 diabetes with proliferative retinopathy, urinary albumine/creatinine ratio of 380 mg/mmol and eGFR of 28ml/min/1.73 m².
C A 21-year-old patient with 15 years of type 1 diabetes, evidence of proliferative retinopathy, an eGFR of 81 ml/min/1.73 m² and a urinary albumine/creatinine ratio of 230 mg/mmol.
D A 44-year-old patient with type 2 diabetes, with a stable eGFR of 42 ml/min/1.73 m² and a urinary albumine/creatinine ratio of 130 mg/mmol and 1+ hematuria on a dipstick test with microscopic confirmation but no dysmorphic red blood cells seen.
Combination treatment with an angiotensin receptor antagonist (ARB) and a diuretic is often used to treat high blood pressure.

Which diuretic is the most rational to use in such cases?

A Spironolactone
Spironolactone is a potassium-saving diuretic which combined with an angiotensin receptor antagonist gives a high risk of hyperkalaemia.

B Furosemide
Loop diuretics such as furosemide are not recommended as an antihypertension treatment.

C Amiloride
Amiloride is a potassium-saving diuretic which combined with an angiotensin receptor antagonist gives a high risk of hyperkalaemia.

D X Hydrochlorothiazide
Thiazides are beneficial to combine with angiotensin receptor antagonists because these drugs give additive antihypertension effects while also having the opposite effects on the potassium balance.

A 68-year old man has mild asthma and uses salbutamol as inhalation as required, but is otherwise healthy. His blood pressure at the last two check-ups with you, as his GP, has not been satisfactory (170/100 mmHg), and you are considering starting him on medical treatment.

Which type of blood-pressure lowering drug should you be careful to use, or maybe omit, in this patient?

A Thiazide diuretics
No contraindications in the medical history; can be used as the first choice.

B ACE inhibitor
No contraindications in the medical history; can be used as the first choice.

C X Beta-1-receptor antagonist
Beta-blockers give a risk of obstruction and can trigger severe asthma attacks in people with asthma. This also applies to selective beta-1 blockers, although the risk is somewhat less than for nonselective beta-blockers.

D Calcium channel blockers
No contraindications in the medical history; can be used as the first choice.

A 57-year old man has had been hospitalised several times due to atrial fibrillation, and he is started on amiodarone (Cordarone). Prior to starting he had free thyroxine of 15.8 (reference range 12.0 - 22.0) pmol/L and thyroid stimulating hormone (TSH) 2.1 (reference range 0.5-3.6) mIU/L. After 4 months’ treatment with amiodarone, free thyroxine is 31.8 and TSH < 0.01.

Why can treatment with amiodarone as stated cause metabolic disturbances?

A X Because amiodarone contains a lot of iodine.
Correct answer. The first step in production of the thyroid hormones is binding of iodine (iodide) to tyrosine. Amiodarone contains about 39% iodine, and treatment with amiodarone can affect hormone production in the thyroid gland via complex mechanisms, resulting in both hypothyroidism and hyperthyroidism.

B Because amiodarone results in an increased risk of toxic adenoma in the thyroid gland.
Incorrect. This not a described effect of, or risk, when taking amiodarone.

C Because amiodarone can give an increase in thyroxine binding globulin (TBG) in serum Incorrect. This is not an effect of amiodarone. If amiodarone gave an increase in TBG, the level of total thyroxine would increase, but free thyroxine and TSH would both be normal.
A 32-year old woman is 18 weeks pregnant. You are her GP. Four years ago she was treated for hyperthyreosis (Grave’s disease) and she has had her thyroxin status checked by a doctor she visited during summer holiday. The samples were analysed by Oslo University Hospital (Aker hormone lab), and you receive a copy of the results. Total thyroxine is 195 (reference range 60 - 150) nmol/L; free thyroxine is 19.4 (reference range 8 - 21) pmol/L and thyroid stimulating hormone (TSH) is 0.9 (reference range 0.5-3.6) mIU/L.

Why is the total thyroxine level elevated in this woman?

A Because she has a relapse of hyperthyreosis (Grave’s disease).
B Because the TSH receptor antibody (TRAS, Thyroid Stimulating Receptor antibody: TRab) increases in pregnancy.
C Because human chorionic gonadotropin (hCG) can stimulate TSH receptors and can cause transient high metabolism during pregnancy.
D X Because thyroxine binding globulin (TBG) in serum increases in pregnancy.

A woman aged 29, with a close relative having diabetes type 2, wants to know if she too has diabetes. She has no symptoms of diabetes. She has HbA1c 6.3% (ref. range 4.3 - 5.6%) and random glucose (non-fasting capillary sample) is 11.0 mmol/L. Both samples are taken using the rapid method at the health centre. The GP is uncertain and therefore administers a peroral glucose load test which is analysed by the hospital laboratory. This shows a fasting glucose (venous serum) of 6.8 mmol/L (ref. range 4.0 - 6.0 mmol/L) and 2-hour glucose of 9.3 mmol/L.

Which information should the doctor give this patient?

A Tell her that she has diabetes.
B Tell her that she does not have diabetes and neither does she have impaired glucose tolerance.
C X Tell her that she has impaired glucose tolerance.

The risk of type 1 diabetes is partly genetic and includes specific HLA haplotypes. Which statement concerning risk is correct?

A Specific risk HLA haplotypes are responsible for 95% of the total genetic risk
B Specific risk HLA haplotypes are associated with a lower risk than non-HLA genes
C X Specific risk HLA haplotypes are associated with a higher risk than non-HLA genes
D Risk HLA haplotypes occur rarely in the general population
78
Toril is 68-years old and previously healthy. She recently fell on the ice and had a radius fracture. As part of the investigation, blood samples were taken that showed high calcium, low phosphate, normal albumin, normal 25-OH vitamin D and elevated parathyroid hormone (PTH).
What is the most probable cause of her hypercalcaemia?

A X Primary hyperparathyroidism
B Familial hypocalciuric hypercalcaemia
C Tertiary hyperparathyroidism
D Malignant hypercalcaemia

79
You're the GP for a woman aged 56 with diabetes type 2. The diagnosis was made 5 months ago; she had HbA1c 7.2%. She received dietary and lifestyle advice. HbA1c is now 10.1%.
Which mean blood sugar level (the last 8-12 weeks) are reflected in her HbA1c of 10.1%?

A X Mean blood sugar level of 13-14 mmol/L
   Correct answer. HbA1c 10% corresponds to a mean plasma glucose of 13.4 mmol/L. Based on data from about 2,700 glucose measurements over 3 months in 507 adults with type 1 diabetes, type 2 diabetes and without diabetes. The correlation between HbA1c and the mean plasma glucose was 0.92. (Nathan DM et al, Diabetes Care 2008; 31: 1473-78)
B Mean blood glucose level of 10-11 mmol/L
   Incorrect. See answer A.
C Mean blood glucose level of 16-17 mmol/L
   Incorrect. See answer A.
The patient is a 34-year old woman, previously healthy, with two healthy children. The husband called the emergency service Saturday morning saying that the patient has nausea and vomiting and has fainted on the way to the toilet. She complains of being lethargic, has lost her appetite and has lost weight over a longer period of time. As the Emergency Unit doctor you see her at 12:00 and find that she is thin, almost emaciated, and has an unusual brown colour in her face and in the creases of the palms of her hands. She appears lethargic and slightly confused. Her BP is 90/65 mm Hg, pulse 110 per minute. The thyroid gland is perhaps slightly enlarged. She vomits during the examination.

Which investigations and follow up are most correct in this situation?

A X Immediate actions: Fluids i.v. (isotonic saline, glucose if low blood glucose using a rapid test) and hydrocortisone 50-100 mg i.v. if transport time to the nearest hospital is more than 20-30 minutes. Take any blood samples for later analysis (whole blood and EDTA blood) if this does not delay the emergency hospitalisation, and send the test tubes with the patient. Do not wait for the results of the blood tests (except for blood glucose). Call the emergency services/hospital. Ask for fast transport, preferably an ambulance.

Adequate actions when emergency treatment is necessary. If the transport time to the hospital is long, more acute actions are necessary than if the time is short (less than 20-30 minutes). The investigations are not affected by standard emergency help actions.

B Lab. tests to be taken immediately with a request for a copy to go to the GP: Haemoglobin, CRP, creatinine, sodium, potassium, ALAT, bilirubin, p-glucose.
Lab. tests tonight at 23:00: Spit cortisol (also with copy to GP)
Lab. test Monday at 08:00: s-cortisol, p-ACTH (also with copy to GP)

Actions today: You order isotonic saline 1,000 mL i.v., and monitor for the next 2 hours at the Emergency Unit. Administer an antiemetic. The patient or husband is asked to contact the GP on Tuesday morning when the test results should be available.

The tests are adequate, and indicate an understanding of possible adrenal cortex failure, but does not take into account the acuteness of the situation and that this is an emergency (possibly an Addison crisis) which requires immediate hospitalisation with continuous saline drip and i.v. hydrocortisone before travelling home if it is a long way to the local hospital.

C Lab. samples to be taken immediately: Haemoglobin, CRP, sodium, potassium, ALAT, p-glucose, p-cortisol, p-ACTH, s-aldosterone, p-renin, free thyroxine, TSH, antibodies to adrenal cortex, spit cortisol, urine dipstick + microscopy + urine sample for culture.
X-ray thorax and overview abdomen.

Immediate actions: Penicillin tabl. + Cortisone tabl. 25 mg morning, 12.5 mg evening, Florinef tabl. 0.1 mg daily. Refer to Endocrinology Outpatients for further investigations. Copy of Emergency Unit note to GP.

Also here, the diagnostics indicate that adrenal cortex failure is probably suspected, but the actions are a little insubstantial and inadequate to manage the acute, possibly life-threatening, situation that requires emergency hospitalisation in the nearest hospital. This requires immediate action, not drawn out investigations.

D Lab. test Monday morning: Haemoglobin, leukocytes, diff. count, eosinophils, thrombocytes, creatinine, CRP, sedimentation, p-glucose, HbA1c, ALAT, ASAT, ALP, GT, bilirubin, free thyroxine, TSH, cortisol, ACTH, 17-hydroxy-progesterone, aldosterone, renin, FSH, LH, oestradiol, prolactin, growth hormone, vitamin B12, homocysteine, s-folate, anti-21-hydroxylase, anti-TPO, anti-tissue transglutaminase, IgA, anti-gliadin, 25-OH-vitamin D. Urine sample for dipstick + micro + culture, and sodium and potassium in 24-hour urine.

Other actions: ECG immediately. Order X-ray thorax. Send photos of face and hands to Endocrinology Outpatients with a request for a telemedical conference and the opportunity for a remote consultation with the GP during the following week.

Action: Should make an appointment with GP on Monday. Request a 24-hour BP recording.

Correct angling towards adrenal cortex failure, but a lack of understanding for the need for acute actions while investigations must take second place, if necessary at the hospital in parallel with emergency treatment.
A 56-year old woman sees you as her GP. Over the last six months she has gained 3-4 kg in weight, and feels tired and apathetic. She has not had any symptoms of infection, does not have a palpably enlarged thyroid gland and there is no palpation tenderness in the neck. Blood test results: Hb 13.2 (reference range 11.7 - 15.3 g/dL), free thyroxine 9.2 (reference range 12.0 - 22.0) pmol/L; thyroid stimulating hormone (TSH) 8.9 (reference range 0.5-3.6) mIU/L; C-reactive protein (CRP) 3 mg/L (reference range < 5); Sedimentation rate in blood (SR) 4 mm/hour (reference range 1 - 28).

What is the most probable diagnosis?

A X Primary hypothyroidism

*Most probable. Biochemically, primary hypothyroidism is characterised by low free thyroxine and high TSH, as in this patient. Elevated TSH is obligatory in primary hypothyroidism.*

B Subacute thyroiditis

*Not probable. Subacute thyroiditis has a typical course with influenza-like symptoms, pain in the neck initially, thereafter periods with high metabolism (without elevated antibody levels) that is followed by a period with low levels of free thyroxine before the metabolism tests stabilise. CRP and SR are elevated initially.*

C Secondary hypothyroidism

*Incorrect. In secondary hypothyroidism free thyroxine is low and TSH is also low or not elevated (as expected with low levels of free thyroxine).*

Which medication group is not used in the medical treatment of patients with acromegaly (growth hormone-producing pituitary adenoma)?

A X Dopamine antagonists

*Correct answer.*

B Somatostatin analogues

*Incorrect.*

C Dopamine agonists

*Incorrect.*

D Growth hormone analogues

*Incorrect.*

The risk of type 1 diabetes is partially genetically determined. Which gene variants have been associated with a strongly increased risk for this disease?

A Variants in genes involved in pancreatic beta cell development

B Variants in genes that determine the glucose sensing by pancreatic beta cells

C X Variants in genes coding for proteins involved in antigen presentation

D Variants in genes coding for GAD (glutamic acid decarboxylase) and IA-2 (insulinoma-antigen 2)

You suspect an aortic arch anomaly corresponding to a the right-sided aortic arch in a newborn baby. An X-ray of the thorax is taken. Would you expect to be able to locate the aortic arch on the thoracic X-ray?

A No, it is too small.

B Yes, as one can in adults.

C Yes, it can be seen on X-ray a short time after birth.

D X No, the thymus fills the upper mediastinum.

*Until the teenage years, the thymus is present projecting over the major vessels which means that they are not visible on X-ray in childhood. As the thymus gradually decreases in size with age, it becomes possible to see the major vessels in the thorax by X-ray.*
What is the most common indication for skeletal scintigraphy?

A  Sports injuries  
B  Child abuse  
C  Rheumatological diseases  
D  Bone metastases

A 32-year old man goes to the GP because of a swelling in a testicle that has appeared over the last 6 months. This is not painful, but tender. Clinical examination reveals an obvious swelling in the testicle in question. The GP refers the patient for an imaging investigation. Which imaging technique is the first choice?

A  MRI  
B  CT  
C  X-ray  
D  Ultrasound

This is the first choice in investigation of diseases in the scrotum. It provides a very good overview of the anatomy and pathology.

A 45-year old man comes to your general practice office and says he has an intermittent, intense pain that spreads from the middle of the lower back a little to the right of the waist and down towards the groin. The urine dipstick gives 3+ for blood. Which imaging investigation is the first choice in further investigations?

A  Ultrasound urinary tract (kidneys/ureters/bladder)  
B  CT urinary tract low dose

These are classic symptoms of kidney stones/ureteral concrements. This is investigated using CT of the urinary tract low dose.  
C  CT Abdomen/Pelvis with intravenous contrast  
D  Urography

A 26-year old man comes to the Walk-in Emergency Clinic because of pain in his scrotum. The pain has appeared slowly over 2-3 days, but has increased over the last 24 hours. Clinical examination reveals obvious redness and swelling, as well as pain at palpation of the testicles. CRP 80 (normal <5). Results of the imaging investigation are shown below. What is the most probable diagnosis?
A  Spermatocele
B  Epididimitis
C  Torsion of the testis
D  Testicular tumour
89
After a complicated birth, the baby is found to have a relatively large tumour at the base of the back. What is the most probable diagnosis?

A Chordoma  
B X Teratoma  
C Wilms’ tumour  
D Neuroblastoma

90
A patient with known pituitary adenoma and Cushing’s syndrome dies suddenly from cardiovascular disease. An autopsy is requested and a pituitary tumour and changes in the adrenals are found. Which finding in the adrenals is the most probable?

A Adrenal cortex atrophy  
B Adrenal cortex adenoma  
C Pheochromocytoma  
D X Adrenal cortex hyperplasia

91
A 28-year old woman has a smooth, mobile tumour in her right breast. It was removed surgically with free resection margins. The image shows a histopathologic section from the tumour (x100, H&E). What is the diagnosis?
A X  Fibroadenoma
   This is the correct answer. In the image you can see a solid tumour that has clear delimitation to surrounding tissue. The tumour is composed of cushion-like masses of stromal tissue without atypical cells/mitoses. The stromal masses compress the epithelial duct structures which appear as slits.
B  Ductal carcinoma in situ
C  Lactating mammary tissue
D  Gynaecomastia

92
A 50-year old man complains of headache, vision problems and acquired hypogonadism. What is the most probable diagnosis?
A X  Pituitary adenoma
   Gonadotropic pituitary adenomas can become so big that they cause headache and visual disturbances due to pressure on the optic chiasma. They produce LH and FSH. Paradoxically, they result in hypogonadism even if they produce LH. Presumably, this LH does not reach the target organ.
B  Craniopharyngioma
C  Pheochromocytoma
D  Seminoma

93
A 26-year old man has a tumour in his left testis. It is well-defined, but takes up most of the testis. The image shows a histopathologic section from a typical area of tumour tissue (x400, HES). What is the diagnosis?
A Abscess.
Lymphocytes are present, but not granulocytes. Furthermore, tumour cells and fibrosis are present.

B Teratoma
Tissue types from several germ layers are absent.

C Granulomatous inflammation
It is correct that lymphocytes can be seen, but there are no epithelioid cells that form granulomas. Moreover, tumour cells are present.

D X Seminoma
The image shows atypical germ cells, lymphocytes and fibrosis, most compatible with seminoma.

94
A 60-year old woman underwent surgery due to an enlarged uterus. Below you can see a histology image (HE, 400x magnification) from a tumour that was assessed macroscopically to be situated in the myometrium.
What is the diagnosis?

A X Leiomyosarcoma
The section shows a spindle cell tumour with coarse atypical cells and mitoses. This excludes the diagnoses of leiomyoma, mitotically-active leiomyoma and cell-rich leiomyoma.

B Mitotically-active leiomyoma
C Leiomyoma
D Cell-rich leiomyoma
Ellen, 56 years old, has an eczema-like change on her skin on one of her nipples. A biopsy reveals atypical epithelial cells in the squamous epithelium compatible with Paget's disease. Which lesion is Paget's disease associated with?

A X Invasive ductal carcinoma
B Mastitis
C Lobular carcinoma in situ
D Fibroadenoma

This image shows a histopathologic section from a tumour in the breast of a 55-year old woman. The picture shows a ductal carcinoma in situ (DCIS) (haematoxylin, eosin and safron (HES); X200). What characteristics distinguish DCIS from invasive ductal carcinoma?

A In DCIS there are large areas of necrotic tumour cells
B In DCIS there are cohesive flat sheets of atypical epithelial cells with many mitoses
C In DCIS the ductal epithelium is hyperplastic, but shows no signs of malignancy
D X In DCIS there is no invasion of the basal membrane