A 79 year old woman with a swollen right leg

A previously well 79 year old woman was referred to the emergency medical unit with a three week history of a swollen right leg. She had previously been treated for possible cellulitis, with no improvement. She had no systemic symptoms and no risk factors for deep vein thrombosis. At initial presentation to the emergency medical unit she was documented as having a “unilateral swollen right leg, with no evidence of cellulitis.” The rest of the examination was normal. Baseline blood tests were normal, except for a positive D-dimer test. Deep vein thrombosis was suspected, so the patient was treated with low molecular weight heparin and she was booked for a Doppler ultrasound scan as an outpatient. The results of the Doppler scan were normal and she was reassured and advised to see her general practitioner if the swelling worsened.

She re-presented to the emergency medical unit three months later with persistent swelling of the right leg, which she felt had slowly got worse. On examination, she had a grossly swollen right leg with pitting oedema up to the groin. She also had three large smooth mobile masses in the right inguinal region. Her pre-test probability score for deep vein thrombosis was 3. The results of a repeat Doppler ultrasound scan were normal. Ultrasound of the groin showed multiple large complex masses in the right hemipelvis (largest 6.5 cm). She underwent computed tomography of the abdomen and pelvis.

1. What are the differential diagnoses for a unilateral swollen leg?
2. What does the computed tomogram show?
3. What definitive investigation is needed to establish the diagnosis?
4. What is the unifying diagnosis?

Submitted by Bryan Joseph Renton
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Presentation 2: A 43 year old obese, multiparous woman seen in the emergency department reports a first episode of right upper quadrant pain and nausea. The pain settled completely by the time the casualty officer has her blood results back. She does not have a fever and has only minimal right subcostal tenderness.

Presentation 3: A 54 year old woman is admitted with severe epigastric pain and vomiting. She has a long history of recurrent right upper quadrant pain. An upper abdominal ultrasound arranged by her general practitioner had shown gallstones but the patient had not been referred. On examination she has marked epigastric tenderness.

Presentation 4: A 47 year old woman has had recurrent episodes of biliary colic. She is admitted with severe right upper quadrant pain associated with a fever of 38°C and localised tenderness in the right hypochondrium.

Presentation 5: An 82 year old man with heart failure is referred from the cardiology ward with sudden onset of severe abdominal pain and vomiting. On examination he has tachycardia of 110 beats a minute, is hypotensive (85/60 mm Hg), and his abdomen is rigid.

For each of these presentations, choose the single most likely cause from the list of options below. Each option may be used once, more than once, or not at all.

A  Acute cholecystitis
B  Acute pancreatitis
C  Ascending cholangitis
D  Biliary colic
E  Biliary peritonitis
F  Choledocholithiasis
G  Empyema
H  Gallstone ileus
I  Mirizzi syndrome

ENDGAMES

We welcome contributions that would help doctors with postgraduate examinations
See bmj.com/endgames for details

PICTURE QUIZ

A 79 year old woman with a swollen right leg

Gallbladder disease

The answers to this question, and more questions on this topic, are available from www.onexamination.com/endgame until midnight on Wednesday.

Presentation 1: A 48 year old woman is referred as an emergency with severe right upper quadrant pain. On examination she has a fever and a tender, palpable right subcostal mass with local peritonism.

Presentation 2: A 43 year old obese, multiparous woman seen in the emergency department reports a first episode of right upper quadrant pain and nausea. The pain settled completely by the time the casualty officer has her blood results back. She does not have a fever and has only minimal right subcostal tenderness.

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CORRECTION On Examination quiz

A recent Endgames question on intracranial pathology (BMJ 2009;339:b3940, print publication 3 Oct, p 813) included the details of cerebrospinal fluid analysis. To counter any misunderstanding of the appropriate investigation of such a patient, we should have included the following warning: “An actual or suspected supratentorial mass is an absolute contraindication to lumbar puncture. This patient’s lumbar puncture should not have been performed and represents bad clinical practice.”

CASE-CONTROL STUDIES

Case-control studies

Researchers used a case-control study to investigate whether passive smoking during childhood was associated with lung cancer in adulthood. Passive smoking in childhood was measured using self completed questionnaires. Participants were recorded as exposed to smoking if anyone smoked regularly where the participant lived as a child. Those individuals with diagnosed lung cancer were more likely to have been exposed to smoking in childhood than those without diagnosed lung cancer (72.8% v 53.4%; P<0.001).

Which of the following statements, if any, are true?

a) Cases are those individuals with diagnosed lung cancer
b) Controls are those not exposed to smoking in childhood
c) All children were followed up until adulthood, with passive smoking and lung cancer status recorded
d) From the above study results we can conclude that lung cancer in adulthood is associated with passive smoking in childhood

Submitted by Philip Sedgwick
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