All work and no play... (answers on page 40)

Part one

Satish is a 46-year-old shopkeeper with a history of hypertension, usually under good control with a combination of antihypertensive drugs, and who has had type 2 diabetes for the last 10 years. His diabetes is reasonably well controlled, but he remains around 10 kilograms over his ideal weight, and is finding it difficult to lose the excess. Working as he does every day, he has not had a holiday for years. He woke up one morning last week nauseated and vomiting, with a constant severe pain in his left loin. Brought to the clinic by his son, he was in considerable distress. His only relevant history was that he had become a little more breathless than usual in the 3 months or so since the nurse had last taken his blood pressure and checked on his blood glucose levels.

On examination he complained of pain when pressure was applied to his left renal angle, but there were no other physical signs of note. His blood pressure was 135/80, his heart rate regular at 85 beats per minute, and his oxygen saturation 97%. He was not feverish. His kidney and liver function tests were in the normal range. Serum amylase was normal. In his electrocardiogram (ECG) there was deep anterior T-wave inversion. He had a high white cell count, and raised C-reactive protein and troponin 1 levels.

Q1 Which of the following diagnoses do you consider the most likely, given this infor mation?
- (a) Left renal infection.
- (b) Renal calculus.
- (c) Cystitis with ascending infection.
- (d) Renal artery thrombosis.
- (e) Myocardial infarction with renal artery embolism.
- (g) Abdominal aortic aneurysm.
- (f) Acute pancreatitis.

Part two

Q2 Which of the following investigations are most likely to lead to the diagnosis?
- (a) Urine culture for bacteriology and sensitivities.
- (b) Intravenous pyelogram.
- (c) Arterial phase contrast enhanced computed tomography.
- (d) Transthoracic echocardiography.
- (e) Abdominal ultrasound.

Part three

Q3 Which of the following statements are relevant to Satish's case?
- (a) The normal blood pressure and renal function suggest that the kidneys are likely to be normal.
- (b) The absence of chest pain suggests that a myocardial infarction with embolus is unlikely.
- (c) The high white cell count and CRP (C-reactive protein) strongly suggest infection.
- (d) The troponin 1 result (0.3 µg/L) is probably not specific to the heart, simply re-flecting the general infection process.
- (e) The ECG result may indicate an old infarct that is not relevant to his current illness.

Part four

Q4 If Satish's symptoms and signs were to be found to be due to an obstructed artery, which of the following statements are likely to be true?
- (a) The absence of atrial fibrillation suggests that an embolus has not come from the heart.
- (b) The origin of the thrombus is likely to be in the renal artery.
- (c) A pelvic thrombosis may embolise to the renal artery.
- (d) The loin pain may be referred angina from a coronary artery obstruction.
- (e) This set of symptoms strongly suggests an intraventricular thrombosis leading to renal artery embolus.

Part five

Q5 Two of the investigations combined together to give the diagnosis, which led to the decision to treat being made. Which of the following options did the physicians choose?
- (a) A combination of broad-spectrum antibiotics.
- (b) Anticoagulation.
- (c) Left nephrectomy.
- (d) Local thrombolysis.
- (e) Surgical embolectomy.