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Abdominal pain, low grade fever and persistent shock

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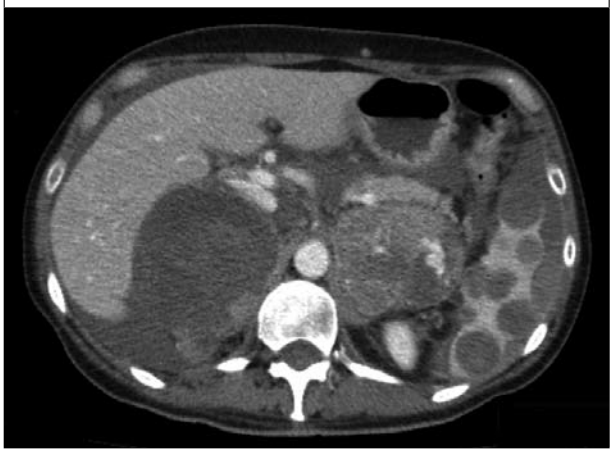
CASE REPORT

A 44-year-old female with a history of metastasised melanoma presented to the outpatients clinic with malaise, near collapse, nausea and abdominal pain radiating to the chest and back since three days. Physical examination revealed a pale woman with mild hypotension (95/50 mmHg), tachycardia (110 beats/min) and low-grade fever (38.2°C). Diffuse abdominal tenderness was present. Blood analysis showed haemoglobin 6.1 mmol/l, hyponatraemia 124 mmol/l and potassium 4.8 mmol/l. Cardiac enzymes and ECG were normal. However, after initial haemodynamic stability with saline infusion, our patient went into a persisting shock despite aggressive volume resuscitation. Subsequently, an abdominal computed tomography angiography was performed (*figure 1*).

Figure 1. *Abdominal computed tomography angiography*



WHAT IS YOUR DIAGNOSIS?

See page 292 for the answer to this photo quiz.

ANSWER TO PHOTO QUIZ (PAGE 288)

ABDOMINAL PAIN, LOW GRADE FEVER AND PERSISTENT SHOCK

DIAGNOSIS

The abdominal computed tomography angiography (CTA) revealed active arterial bleeding from both large metastatic adrenal glands (8 cm) with old and fresh haematomas, rupturing into the peritoneal cavity, and metastases in the spleen. The presence of old and fresh haematomas suggested recurrent bleeding episodes, which had now been complicated by an acute event. The left adrenal artery was probably the culprit, because of the more pronounced contrast extravasation. The patient was treated with aggressive volume resuscitation, high-dose hydrocortisone (already given before ordering the CTA) and both adrenal arteries were successfully coiled. Surprisingly, CTA also revealed a large thrombus from the left hepatic vein up to the right atrium (not shown) for which no treatment was started. Nevertheless, our patient remained stable and was released from the hospital within two weeks. Because of the co-occurrence of hyponatraemia, hyperkalaemia and a low morning serum cortisol at time of presentation (0.228 µmol/l; ACTH not available), adrenal insufficiency was diagnosed and hormone replacement therapy was started. Her electrolyte disturbances disappeared subsequently.

Metastases in the adrenal gland are found in up to 50% of autopsied melanoma patients.[1] Bilateral adrenal masses larger than 5 cm in diameter on CT scan with irregular areas of necrosis or haemorrhage without lipomatous content are characteristic for malignant melanoma.[2] Patients may present with malaise, abdominal pain, flank pain or back pain. They may complain of nausea, vomiting or anorexia. In case of clinically overt adrenal insufficiency, hypotension, low grade fever, hyponatraemia and hyperkalaemia may be present. However, adrenal metastases do not usually cause hypocortisolism, because the adrenal cortex remains intact.[3] More often, patients have a partial adrenal insufficiency. Therefore, hydrocortisone replacement therapy should promptly be started in case of stress. However, symptoms are often attributed to the underlying malignancy, causing adrenal insufficiency to be overlooked.

Spontaneous arterial haemorrhage in the adrenal gland is a rare complication of metastatic disease.[3] Still, bleeding is no coincidence in malignant melanoma, but rather a characteristic of this tumour type. Although the usual treatment is adrenalectomy, bilateral adrenal melanoma metastases indicate advanced disease with a five-year survival rate of only 15%. Coiling may therefore be a good alternative to adrenalectomy.

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