Teaching Point
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The haemodialysis patient with night sweats, ascites, and increased CA 125

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Case

The patient is a 47-year-old Philippine woman with end-stage renal disease since 1996 due to diabetic nephropathy. She has been living in Germany since 1982, but travelled to the Philippines each year for some weeks for vacation. In the past medical history, enlargement of mediastinal lymph nodes was noticed since 1995, but without any pulmonary infiltrations. Mediastinoscopic biopsy at that time revealed a non-caseating granulomatous lymphadenitis. No further work-up was done and several chest X-rays had been unchanged in the following years.

In February 1999 the patient reported persistent mild vaginal bleeding, night sweats, and low-grade fever. A weight loss of 5 kg and an erythropoietin-resistant anaemia were noted.

The physical examination revealed a tense abdomen but was otherwise normal. A tuberculin skin test was negative. Ultrasound showed large quantities of ascites in the whole abdomen, without signs of portal hypertension. A gynaecological pelvic examination was unremarkable.

Laboratory examination revealed a microcytic anaemia with haemoglobin 9.2 g/dl, platelet count 444 000/μl, white cell count 8000/μl, with 70% neutrophils, 8% lymphocytes, 20% monocytes, 1% eosinophils, and 1% basophils in the differential count. Calcium, LDH, bilirubin, and liver enzymes were within normal limits. Serum albumin was slightly reduced to 39 g/l.

As ovarian cancer was suspected, the serum level of CA 125 was measured and found to be increased to 297 U/ml (normal < 30 U/l). Serological markers for hepatitis B and C and HIV were negative.

A chest X-ray was unremarkable, with no signs of congestive heart failure or pulmonary infiltration, but CT-scan of the chest a few days later revealed infiltrates of the right lung and enlargement of a calcified lymph node in the right mediastinum (Figure 1). Bronchoscopy was not performed. A CT scan of the abdomen and pelvis showed perihilar ascites and calcification of an enlarged lymph node para-aortal (Figure 2).

Diagnostic paracentesis revealed yellow clear ascitic fluid with glucose 89 mg/dl, leukocytes 1300/μl, total protein content 61 g/l, no erythrocytes, LDH 616 U/l, and cholesterol 78 mg/dl. Ascitic fluid cytology showed predominantly lymphocytes and monocytes, some neutrophils, but no malignant cells. No acid-fast bacilli were found.

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Fig. 1. Computed tomography of the chest showing pulmonary infiltrates of the right lung and calcification of a lymph node in the right mediastinum.
onset ascites, vaginal bleeding, and increased serum level of CA 125. But further diagnostic work-up revealed tuberculous peritonitis.

Immigrant status appeared to be a risk factor for tuberculosis [5], although it remains speculation whether our Philippine patient acquired tuberculosis in Germany or during her vacations in the Philippines. Tuberculous peritonitis results from haematogenous seeding of the peritoneum and is usually preceded by pulmonary tuberculosis. Retrospectively, we think that our patient had long-standing latent tuberculosis of the mediastinal lymph nodes, as indicated by the granulomatous mediastinal lymphadenitis found in 1995. The tuberculous peritonitis was part of a reactivation of tuberculosis in our patient.

CA 125 is a glycoprotein secreted by mesothelial cells [6]. The increased serum level of CA 125 in our patient is due to the activation of peritoneal mesothelial cells by the inflamed peritoneum. Increased serum levels of CA 125 are a useful marker of epithelial ovarian cancer but can also be seen in other abdominal and extra-abdominal malignant or benign diseases, indicating that specificity of CA 125 is low and increased levels just reflect activation of mesothelial cells lining the peritoneum, pleura, or pericardium, whatever the stimulus is [7–9].

The increase of CA 125 in our patient is not due to renal insufficiency. Menzin et al. [10] found no impaired metabolism or clearance of CA 125 in female haemodialysis patients. Increase of CA 125 in tuberculous peritonitis has been described in patients with normal renal function [11]. CA 125 normalizes under anti-tubercular therapy, indicating that CA 125 might serve as a control of therapy.

**Teaching points**

(i) In the haemodialysis patient with new-onset of ascites, do not forget tuberculous peritonitis.

(ii) Increase of CA 125 is not specific for ovarian cancer, but rather indicates activation of mesothelial cells in response to various stimuli.

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**References**


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Fig. 2. Computed tomography of the abdomen. Note the enlargement of a calcified lymph node para-aortal close to the left renal hilus and the predominantly perihilar ascites.