Intern Emerg Med (2016) 11:153–154
DOI 10.1007/s11739-015-1269-6

CE - MEDICAL ILLUSTRATION

A massive retroperitoneal hematoma during low-molecular-weight-heparin therapy

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Received: 25 May 2015 / Accepted: 3 June 2015 / Published online: 16 June 2015

A 75-year-old woman was admitted to our Cardiology Department with congestive heart failure. Oral anticoagulant therapy was discontinued to perform hemodynamic catheterization and low-molecular-weight-heparin (LMWH—subcutaneous enoxaparin 5700 IU BID) was started. The dosage of LMWH was assessed according to the patients constitution (weight 75 kg) and renal function index (eGFR 63 ml/min/1.73 m^2).

Four days after the catheterization, she developed abdominal pain followed by hemorrhagic shock. The abdominal computer tomography showed a massive retroperitoneal hematoma (24 × 15 × 10 cm, Fig. 1a, b—yellow arrowheads), superior and medial dislocation of the left kidney (Fig. 1a, b, arrow), normal contrast urinary excretion, medial dislocation of the spleen and inferior vena cava compression. In the arterial phase, the retroperitoneal hematoma and left psoas muscle—which is magnified compared to the contralateral (Fig. 1c)—were showing the contrast. Angiography (Fig. 1d) and selective embolization of left middle gluteal, left ilio-lumbar, left superficial epigastric and lumbar-L5 arteries were performed. After 2 days, she developed acute kidney failure, leading to her death.

Spontaneous retroperitoneal hematoma is an infrequent but potentially fatal complication of LMWH therapy. Previous data of enoxaparin-induced spontaneous retroperitoneal hematoma identified predisposing risk factors as age over 70 years, concomitant administration of oral anticoagulation or antiplatelet agents and concomitant renal insufficiency [1]. Efficacy and safety of enoxaparin in

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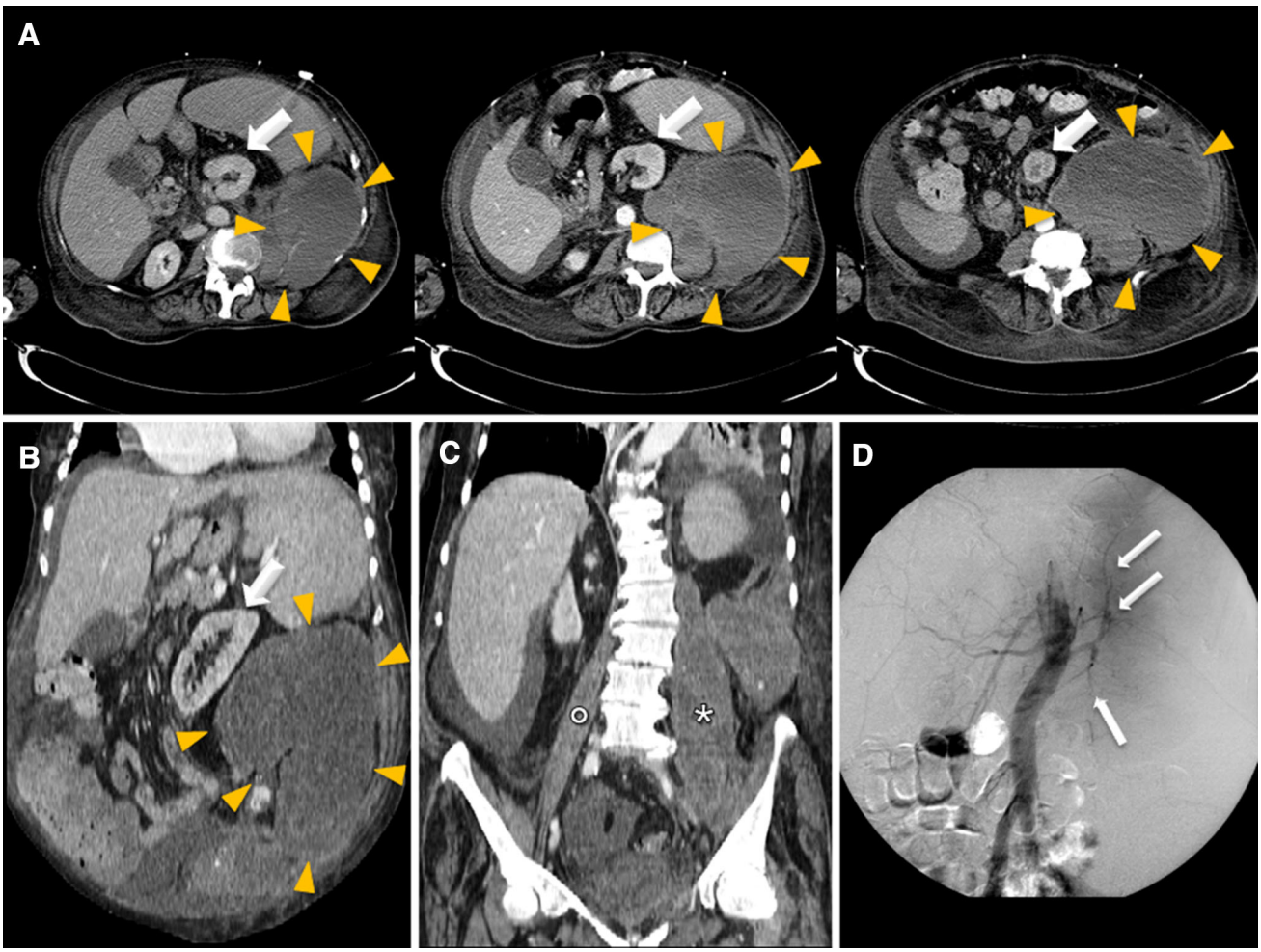

Fig. 1 **a**, **b** Abdominal computer tomography, a massive retroperitoneal hematoma (24 × 15 × 10 cm—*yellow arrowheads*) with superior and medial dislocation of the left kidney (*arrow*). **c** Left psoas muscle is magnified (*asterisk*) compared to the contralateral (*circle*). **d** Angiography and selective embolization (*arrows*) of left middle gluteal, left ilio-lumbar, left superficial epigastric and lumbar-L5 arteries (color figure online)

the presence of renal function impairment require a dose reduction [2].

Spontaneous retroperitoneal hematomata have a wide spectrum of clinical presentations (ranging from leg pain or paresthesia to catastrophic hemorrhagic shock) [1], receive aggressive management with transfusion and interventional radiology procedure, and are associated with high mortality and morbidity rate [3].

Conflict of interest None.

Statement of human rights All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent The patient's consent has been obtained.

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