

**Aspirin/contrast media/enalapril/  
nadroparin calcium****S****Tubular necrosis, retroperitoneal haemorrhage and renal failure in an elderly patient: case report**

A 71-year-old woman developed acute tubular necrosis (ATN), retroperitoneal bleeding and anuric renal failure after administration of nadroparin calcium, enalapril, a contrast medium and aspirin during treatment following myocardial infarction (MI).

The hospitalised woman, who had no congenital or acquired bleeding tendency but a long history of analgesic nephropathy, underwent coronary angiography following an antero-septal MI; she received prophylactic nadroparin calcium [Fraxiparine] 0.3mL [*frequency of administration not stated*]. Contrast medium [*not specified*] 300mL was administered for angiography of the left heart; enalapril [Reniten] 20 mg/day had been initiated on the previous day [*therapeutic indication not clearly stated*]. Oral anticoagulation was indicated because of an anterior wall aneurysm; the nadroparin calcium dose was increased to a therapeutic dose of 0.6mL twice daily and aspirin [Aspirin Cardio] 100 mg/day was also initiated. Three days following the coronary angiography, further anticoagulation therapy (phenprocoumon) was begun. She complained of increasing abdominal pain and there were signs of reduced renal function (serum creatinine level 182 µmol/L). Two days later, she was changed to once-daily nadroparin calcium [Fraxiforte]. The next day she developed massive retroperitoneal bleeding causing circulatory shock. She underwent urgent abdominal surgery; her serum creatinine level was 254 µmol/L. The next day, her serum creatinine level increased further to 328 µmol/L and she developed anuria caused by ATN, suggested by an elevated urine sodium level of 136 µmol/L. Anti-factor Xa activity was 0.57 IU/mL, 30 hours after the last administration of nadroparin calcium. The diagnosis was ATN and anuric renal failure following administration of contrast medium, enalapril and aspirin, and retroperitoneal bleeding due to accumulation of nadroparin calcium.

Haemodialysis was started and measures taken to stabilise haemodynamics. Right-sided percutaneous nephrostomy was performed because of the retroperitoneal haematoma obstructing the ureter and kidney. [*Outcome of retroperitoneal bleeding not stated*]. She received fluconazole for urosepsis (*Candida tropicalis*) and her diuresis restarted. Her worsened renal function persisted on discharge (creatinine clearance 21 mL/min), and the right kidney remained anuric.

**Author comment:** "*Apart from the intake of [aspirin] 100 mg, there was no indication for any other coagulation anomaly. The combination of the administration of contrast medium, [enalapril] and [aspirin] in a patient with pre-existing nephropathy and chronically impaired renal function led to ATN with [nadroparin calcium] accumulation. This accumulation combined with the [aspirin] resulted in haemodynamically relevant retroperitoneal bleeding and finally in acute renal failure*".

Schneiter S, et al. Bleeding complication due to accumulation of low-molecular-weight heparin in a patient with renal insufficiency. *Schweizerische Rundschau für Medizin Praxis* 96: 733-737, No. 18, 2 May 2007 [German; summarised from a translation] - Switzerland

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