

Clinical Notes

Retroperitoneal hematoma following rofecoxib and enoxaparin coadministration in a patient with atrial fibrillation

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There are very few published reports implicating enoxaparin as a factor in retroperitoneal hematoma. A MEDLINE search of the literature from 1966 to April 1999 revealed no cases associated with the current recommended therapeutic dose of 1 mg/kg of body weight every 12 hours. The incidence may be on the rise due to the increasing number of patients prescribed anticoagulants for atrial fibrillation and other disorders. We report a patient who developed a retroperitoneal hematoma after using enoxaparin for paroxysmal atrial fibrillation.

A 72-year-old man was admitted to the medical ward with history of low back pain, radiating beyond the back to the buttocks. His medical history was positive for bilateral knee osteoarthritis. He had no history of coagulopathy, renal tumors, and liver disease. He took no antiplatelet agents or anticoagulant agents. No adverse drug reactions were reported. He had no family history of coagulopathy. On physical examination his vital signs were: temperature 36.8, blood pressure (BP) 100/70 mm Hg, pulse 72/min, respiratory rate 16/min, no peritoneal signs, no abdominal swelling, mild lower back tenderness, bilateral knee tenderness with restriction of movement, and the leg-raising test was negative. The rest of his physical examination was unremarkable. Laboratory data showed hemoglobin level of 13 g/dL, a normal platelet count, and a normal creatinine concentration. X-ray of both knees showed bilateral osteoarthritic changes. He was seen by a Rheumatologist, who prescribed rofecoxib (selective COX-II inhibitor). Computerized tomography scan of the spine showed lumbar spinal stenosis and he was referred to a Neurosurgeon, who thought that the patient was not fit for surgical intervention at that time. On the fourth day of his admission, he developed dizziness and ECG showed atrial fibrillation. He was referred to the cardiologist who prescribed enoxaparin one mg/kg every 12 hours and digoxin. Two days later, he started to feel unwell and complained of dizziness. He became acutely hypotensive and his BP was 70/50 mm Hg. Abdominal examination revealed right-sided swelling, no bruising, and the patient's hemoglobin level dropped to 7.5 g/dL. Abdominal computed tomography showed a right retroperitoneal

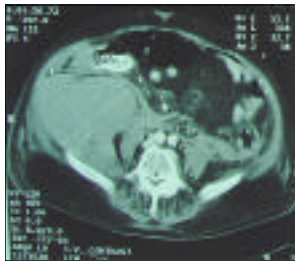


Figure 1 - Abdominal CT showing retroperitoneal hematoma.

hematoma and no aortic aneurysm was noted (Figure 1) and enoxaparin and rofecoxib were discontinued. He was transferred to the medical intensive care unit, where he was successfully managed with red blood cell and plasma transfusions. His renal function started to improve gradually with adequate urine output within 3 days without dialysis. His hemoglobin was corrected to a level of 10 g/dL, and he was transferred back to the medical ward. His general condition improved and he was stable during the rest of his stay.

Despite many advantages over unfractionated heparin, enoxaparin is associated with a comparable rate of major bleeding complications. In most cases, major bleeding syndromes are procedure-related, but bleeding may also occur spontaneously and may cause fatal complications such as retroperitoneal hematoma. The factors that increase the risk of bleeding in patients receiving enoxaparin are the use of high doses of enoxaparin, advanced age, renal impairment, and the concomitant use of drugs affecting hemostasis. This patient was elderly, and received rofecoxib concomitantly. Thus, high-risk patients receiving low-molecular-weight heparin should be identified and closely monitored to prevent serious bleeding complications. Almost half of all enoxaparin-related major bleeding complications occur within 3 days of therapy. This patient developed bleeding on the second day after 4 doses of a standard therapeutic dose of enoxaparin (one mg/kg of body weight subcutaneous every 12 hours). The clinical manifestations vary from leg paresis to abdominal pain or a catastrophic shock. Thus, an adequate index of suspicion is needed to reverse anticoagulation rapidly and initiate other therapeutic measures. Retroperitoneal hematoma should be considered in the differential diagnosis in patients receiving enoxaparin and experiencing unexplained decreases in hemoglobin and

hematocrit. In the order of precedence of radiologic diagnostic procedures for fast diagnosis of a retroperitoneal hematoma, abdominal CT-scan is the preferred method.

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