

## A salient rectus abdominis hematoma due to enoxaparin

### *Enoksaparine bağlı rektus abdominis hematomu*

Enoxaparin is a low molecular weight heparin (LMWH) commonly used in clinics with few untoward effects pertaining to bleeding or hematoma. Reported here is a patient in whom an intramuscular hematoma had developed due to enoxaparin. The diagnosis and the relevant mechanisms are discussed in light of the literature.

A 69-year-old thin man was seen for severe left lower abdominal pain. The history revealed acute coronary syndrome three days ago. He had been taking acetylsalicylate (300 mg/day), enoxaparin (60 mg BID, subcutaneous, periumbilical), perindopril (2 mg/day), isosorbide mononitrate (60 mg/day) since then. The physical examination disclosed a 5x5 cm palpable tender mass in the left lower abdominal quadrant. An immediate abdominal ultrasonography (USG) depicted a 6x4 cm semisolid heterogenous mass in the left rectus abdominis muscle, which was relevant with either a hematoma or an abscess. The following computerized tomography demonstrated an oval intramuscular hematoma (5x4x3 cm) within the left rectus muscle (Fig. 1), which seemed to be isohyperdense before the contrast material injection and with no contrast uptake later on. Ultrasonography guided needle aspiration yielded a cytological diagnosis of the hematoma. The control laboratory findings were as follows: Hemoglobin: 12.4 g/dl, Hematocrit: 38%, Platelet: 198000 /ml, Prothrombin time: 14 sec (laboratory normal range 13-15 sec), activated partial thromboplastin time: 34 sec (laboratory normal range 25-35 sec), INR: 1.1. Enoxaparin and aspirin treatment were stopped and no surgical intervention was considered to be necessary as the hematoma regressed in size during his follow up. Ten days later, he was discharged as the hematoma had vanished.

Enoxaparin—a low molecular weight heparin (LMWH)—is widely used in many clinical conditions like unstable angina pectoris

(USAP), non-Q-wave myocardial infarction (MI), deep venous thrombosis, pulmonary emboli and for prophylaxis after hip and knee replacement surgery (1). Its favorable side effect profile, ease of administration and lack of laboratory monitoring made it a reasonable alternative to i.v. heparin in daily practice. The known complications are mainly hemorrhage, thrombocytopenia and local reactions (1)—though very low as compared to heparin. There are no more than a few reports in the literature, hitherto, mentioning about abdominal wall hematomas due to enoxaparin (1-3) whereas other types of hematomas are more frequently reported (4,5). In the first report, there are two patients—one with non-Q-wave MI and the other with USAP in whom the hematomas were diagnosed after a sustained unexplained fall in Hematocrit and with accompanying abdominal pain. The latter two reports describe rectus sheath hematomas due to enoxaparin, one of which even to the extent that required coil embolization of the inferior epigastric artery for controlling the bleeding (2).

These very rare cases imply the fact that, although unexpected, the medical staff might come across some bleeding complications in patients using LMWH. The probable mechanisms underlying this scenario may be an accidental injection of enoxaparin intramuscularly (rectus abdominis strain), the disruption of epigastric vessels—due to their rich anastomoses nearby the most common injection sites—as well as its pronounced effect of anticoagulation in the elderly and in patients with increased bleeding tendency. Thus, we highlight the fact that LMWH use requires prudent application and deliberate follow up during its use—especially in thin patients with less abdominal fat.

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**Figure 1. Computerized tomography demonstrating the hematoma in the left rectus abdominis muscle**