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ENOXAPARIN INDUCED MASSIVE RECTUS SHEATH HEMATOMA

ENOKSOPARİN KULLANIMINA BAĞLI MASİF REKTUS KILIF HEMATOMU

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ABSTRACT

Rectus sheath hematoma is an uncommon complication of anticoagulation that generally presents as sudden onset of abdominal pain. Enoxaparin; a widely used low molecular weight heparin in acute coronary syndrome may rarely cause about abdominal wall hematoma. This complication is potentially fatal and needs prompt recognition and treatment. We report here a case of rectus sheath hematoma due to enoxaparin with the diagnosis of acute coronary syndrome. The potential diagnostic and treatment modalities were discussed in the light of the literature.

Key words: Rectus hematoma, enoxaparin

ÖZET

Rektus kılıf hematomu; antikoagülasyona bağlı, genellikle ani karın ağrısı başlangıcıyla ortaya çıkan nadir bir komplikasyondur.Düşük molekül ağırlıklı heparin olarak akut koroner sendromlarda yaygın olarak kullanılan Enoksaparin; nadiren karın duvarı hematomuna neden olabilir. Bu komplikasyon potansiyel olarak ölümcüldür ve erken tanı ve tedavi gereklidir. Burada akut koroner sendromda enoksaparin kullanımına bağlı rektus kılıf hematomu olgusu sunuyoruz. Potansiyel tanı ve tedavi yöntemleri literatür ışığında tartışıldı.

Anahtar kelimeler: Rectus hematomu, enoksaparin

INTRODUCTİON

Rectus sheath hematoma is an uncommon complication of anticoagulation that generally presents as sudden onset of abdominal pain. It results from bleeding into the rectus sheath from damage to the superior or inferior epigastric arteries or their branches, or occasionally from a direct tear of the rectus abdominis muscle. Prompt recognition, diagnosis and treatment are essential to minimize further complications including hemodynamic instability, the abdominal compartment syndrome, multiorgan dysfunction and death. We report a case of rectus sheath hematoma due to enoxaparin use, in a case with acute coronary syndrome.

CASE

A 46-year-old man was admitted to the emergency clinic with the complaint of acute onset crushing chest pain attack. He had a past medical history of chronic kidney disease and chronic obstructive pulmonary disease. On physical examination, he was afebrile (36,7 Celcius), his blood pressure was 150/90 mmHg, pulse rate was 75 and respiration rate was 20 per minute.

There were crackles and rhonchi in the bilateral lower lung area. ECG was normal. Laboratory tests revealed the following values: glucose 97 mg/dl, CK-MB 51,4 IU/L, CK 3340 İU/L, troponin 2,4 ng/ml, hemoglobin 9,3 mg/dl, thrombocyte 166 000/mm^3 and INR 1,17. The diagnosis of acute coronary syndrome was concluded and acetylsalicylic acid abdominal pain and infraumbilical solid sensitive mass developed in the patient on the third day of hospitalization. The leukocyte count was normal and the hemoglobin level decreased to 7.4 g/dl. Ultrasound examination revealed a mass in the frontal wall of the abdomen 10x7x6 cm in diameter. Computed tomography confirmed the diagnosis of rectus sheat hematoma of 7x6 cm in diameter (Figure 1). The patient was consulted with the general surgery department. Prompt surgery was not recommended and the patient was followed up with cessation of anticoagulant treatment. His pain has disappeared on the sixth day. Ultrasound examination showed mild resorption of the hematoma before discharge. At the 2-month follow-up office visit control tomography showed that the hematoma was reduced 75% in volume (Figure 2).

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Rectus hematoma

Figure 1. Computed tomography image.On the third day of enoxaparin theraphy a mass in the frontal wall of the abdomen 7x6 cm in diameter.

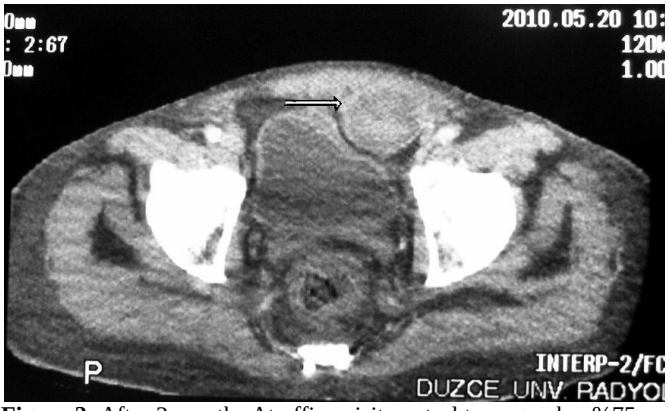

Figure 2: After 2 months.At office visit control tomography. %75 regression in volume .

DISCUSSION

The widespread use of anticoagulant therapy increased the rate of spontaneous hemorrhage (11). The abdominal wall is a common site of spontaneous bleeding in patients undergoing anticoagulant therapy (6). Small vessel arteriosclerosis or heparin-induced immune microangiopathy are among the most accepted pathogenetic processes (7, 12). Overcontraction of the abdominal wall due to sneezing, coughing, and vomiting may also be regarded as precipitating factors (4, 6). Physical findings of rectus hematoma may include features of hypovolaemic shock, a palpable non-pulsatile abdominal mass, signs of local peritoneal irritation and a positive Carnett's test (5) (a test to help determine whether the tenderness is intra-peritoneal or arising from the abdominal wall: tenderness arising inside the abdominal cavity is reduced when the abdominal muscles are tensed by lifting head and shoulders off the examination couch; in contrast this manoeuvre worsens or has no effect on tenderness if the pathology is arising from the abdominal wall). The possible predisposing factor in our patient was his cough attacks due to chronic pulmonary obstructive disease causing sudden increase in intraabdominal pressure and overcontraction of the rectus muscle.

Enoxaparin –a low molecular weight heparin (LMWH) is widely used in many clinical conditions like unstable angina pectoris (USAP), myocardial infarction (MI), deep venous thrombosis, pulmonary emboli and for prophylaxis after hip and knee replacement surgery (8). 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, mentioning about abdominal wall hematomas due to enoxaparin (2) whereas other types of hematomas are more frequently reported (9,10).

Both ultrasonography and CT have been used as a diagnostic aid to differentiate between rectus sheath haematoma and intra-abdominal pathology. Both reduce unnecessary laparotomy (3), but CT has the advantage of ruling out other abdominal pathologies if the diagnosis is in doubt and is more sensitive and specific. Berna et al. proposed a method of classification for rectus sheath hematoma on the basis of CT findings (8). In type 1, the hematoma is intramuscular and an increase in muscle size is observed with focal or diffuse increased density; the hematoma is unilateral and does not dissect along fascial planes. In type 2, the hematoma is intramuscular, as it is in type 1, but blood is between the muscle and the fascia transversalis, the hematoma can be uni- or bilateral, no blood is seen prevesically, and a hematocrit effect (fluid-fluid level) can be seen. In type 3, the hematoma may or may not effect the muscle, the blood is between the muscle and the fascia transversalis, is in the peritoneum prevesical space, and a hematocrit effect can be seen.

Most rectus sheath haematomas can be treated conservatively with analgesia, treatment of predisposing conditions and cessation of anticoagulation. When necessary, fluid resuscitation and reversal of anticoagulation and/or antiplatelet therapy should be carried out with expert advice from haematologists. Active bleeding can be managed either surgically by evacuating the haematoma and ligating the bleeding vessels or radiologically with catheter embolisation (13). If hematocrit stabilizes and the mass decreases in dimension after cessation of the anticoagulants, the patient may be followed by ultrasonograpy until hematoma is completely resorbed as in our patient.

In conclusion, acute abdominal pain with evidence of abdominal mass and anemic syndrome in patients using enoxaparin, especially with COPD having severe cough attacks must alert physicians for diagnosis of rectus sheath hematoma.

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