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Case Report

Bleeding in a COVID-19 Patient; Rectus Hematoma

COVID-19 Hastasında Kanama; Rektus Hematomu

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ABSTRACT

Anticoagulant therapy is part of the treatment of hospitalized COVID-19 patients. Low molecular weight heparin or oral anticoagulant drugs are used in its treatment. However this approach may increase the risks of bleeding. Rectus sheath hematoma (RSH) is a known complication of anticoagulant therapy and a source of potential morbidity and mortality. Here; we present a patient who developed rectus hematoma during the COVID-19 treatment and followed by us with conservative approach.

Keywords: anticoagulation, COVID-19, rectus hematoma

ÖZ

Antikoagulan tedavi; hastanede yatan COVID-19 hastalarının tedavisinin bir parçasıdır. Bu amaçla tedavide kullanılanlar düşük molekül ağırlıklı heparin ve oral antikoagulan ilaçlardır. Fakat bu yaklaşım kanama riskinde artış ile birliktedir. Rektus kılıf hematomları antikoagulan tedavinin bilinen bir komplikasyunudur ve potansiyel mortalite ve morbidite kaynağıdır. Bu vaka örneğinde size COVID-19 hastalığının tedavisi seyrinde gelişen ve konservatif yaklaşım ile takip ettiğimiz rektus hematomu olgusunu sunmak istiyoruz.

Anahtar kelimeler: anticoagulation, COVID-19, rectus hematoma

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INTRODUCTION

Rectus sheath hematoma (RSH) is a relatively uncommon condition secondary to hemorrhage into the rectus sheath, which, in turn, is caused by damage to the superior or inferior epigastric arteries or their branches or by direct damage to the rectus muscle (1). Systemic anticoagulation therapy, minor trauma, intraabdominal injections, or exertional abdominal wall straining are risk factors for RSH (2-5).

Since January 2020, coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has resulted in an emerging respiratory infection with a pandemical diffusion (6). Anticoagulant therapy is part of the treatment of hospitalized COVID-19 patients but it may increase the risk of bleeding. Here we report a patient with rectus sheath hematoma, which is a rare complication of COVID-19 disease.

CASE REPORT

A 63-year-old female patient presented with complaints of weakness, fever, joint pain and cough for several days. The patient, whose polymerase chain reaction test (PCR) performed for SARS-NCov2 was positive and had bilateral infiltrations on thorax computed tomography (CT) was hospitalized. Oxygen saturation was above 90% on room air and crackles were heard in the middle lobes of the lung bilaterally. During hospitalization hemoglobin value (Hb) (12.8 gr/dl), platelet count (PLT) (350.000/µL), international normalized ratio (INR) (1.17) of the patient were determined as indicated. The patient's biochemical parameters were normal, and the C-reactive protein (CRP) level was 75 mg/L.

The patient was using multiple drugs with the indications of essential hypertension, rheumatoid arthritis, asthma and previous pulmonary thromboembolism (PTE) (4 months ago). She was using rivaroxaban (Xarelto 20 mg/day PO) due to PTE. Favipiravir (200 mg/tab PO: 2x1600 mg first day, and 2x600 mg for 4 days) and hydroxychloroquine sulfate (200 mg/ PO bid for 5 days) for the treatment of SARS-CoV-2; and piperacillin-tazobactam (4x4.5 gr IV) for the treatment of secondary pneumonia were started.

During the treatment, complaints of fever and joint pain regressed but dry cough intensified. After the sixth day of the treatment her respiratory status was stable on nasal cannula oxygenation. While waiting for the completion of the isolation period; the patient described pain and a feeling of stretching in the left lower quadrant of the abdomen on the 10th day of her admission. In the abdominal examination, no abnormality was detected on inspection, there was tenderness on the painful area on palpation, and no rebound was observed. In the laboratory tests taken for control purposes, the hemoglobin (Hb) value was found to be 11.3 g/dl and there was a decrease of 1.5 g/dl compared to the value found when she first applied to the hospital, and her INR was 1.31. Abdominal ultrasonography (USG) performed showed an intraperitoneal, 80X30 mm hypoechoic lesion located close to the anterior abdominal wall in the left lower quadrant. Contrast-enhanced abdominal computed tomography (CT) was performed for differential diagnosis and further examination and treatment were planned for the lesion. It was seen that the lesion described in abdominal CT was a rectus sheath hematoma.

Fig 1. Well defined large-sized elliptical mass in the left rectus sheath, containing areas of different attenuation consistent with different bleeding stages.

Her Xarelto treatment was discontinued. She was followed up with conservative follow-up, as her pain gradually decreased in daily clinical follow-ups and there was no decrease in Hb values. In the control USG, reduction in the size of the lesion was detected and after termination of the 14-day isolation period, anticoagulant therapy was started. Then she was discharged with recommendations of outpatient controls by the departments of cardiology and general surgery.

The authors certify that they have obtained signed patient consent form where the patient has given her consent for clinical information to be reported in the journal.

DISCUSSION

Due to the growing data about the association between coronavirus infection and coagulopathy, anticoagulant therapy has become part of the medical therapy in hospitalized patients, to reduce the risk of venous thromboembolism (7). This approach, however, may increase the risk of spontaneous bleeding, especially in elderly patients with comorbidities. Morever these bleeding complications occur under both prophylactic and therapeutic use of anticoagulants. A large retrospective study conducted by Girish N. Nadkarni et al[8] showed that the proportion of these patients with hemorrhagic complications after initiation of anticoagulation treatment was highest in patients under therapeutic anticoagulation (27/900;3.0%) compared with patients on prophylactic anticoagulation (33/1959;1.7%) and those not receiving anticoagulation (29/1530;1.9%). In contrast a recent study evaluating anticoagulant use in 42 COVID-19 patients found no clinical benefit of therapeutic anticoagulation in COVID-19 patients, however, the same study also did not find any increased incidence of bleeding in these patients (9).

Hemorrhagic complications of anticoagulant therapy are common in hospitalized patients and may cause morbidity and mortality. For example; heparin carries a 10-15% risk of bleeding without any other associated risk factors. Advanced age, severe form of the disease, trauma and recent surgery, cardiopulmonary resuscitation, prolonged hospitalization, leukopenia and thrombocytopenia may increase the odds of acute bleeding (10,11). Most commonly gastrointestinal (50.7%), mucocutaneus (19.4%), bronchopulmonary (14.9%) and intracranial (6%) bleedings are seen (8). Our patient was 63 years old without any history of surgery and low platelet count.

American Society of Hematology recommend pharmacologic thromboprophylaxis with low molecular weight heparin (LMWH) over unfractionated heparin (12,13). The use of oral anticoagulants is not recommended because of their disadvantages such as their higher costs, and longer half life. Besides pre-existing renal and hepatic dysfunction may influence their pharmacodynamics. Our patient was using Xarelto due to a history of pulmonary thromboembolism and continued to use for PTE prophylaxis.

Rectus sheath hematomas are unexpected and rare complication of anticoagulant therapy. As in our patient, the use of oral anticoagulant, the trauma and tension caused by cough may have led to shearing of epigastic vessels. In addition; coagulatopathies, thrombocytopenia and platelet dysfunction, disseminated intravascular coagulation that develop during the course of COVID-19 could increase the risk of rectus hematoma. But in our patient the symptoms of bleeding occurred suddenly without previously relevant laboratory and clinical signs.

The classical symptoms of COVID-19 are dry cough and fever and the diagnosis is confirmed by real-time reverse transcription-polymerase chain reaction (RT-PCR) testing for SARS-CoV-2 nucleic acid. As the number of cases have increased worldwide, the frequencies of gastrointestinal symptoms like diarrhea, constipation, abdominal pain, and vomiting have increased (14,15). RSH, although uncommon, should be considered in a patient who suffers from severe abdominal and lumbar pain. The

clinicians should be aware of this possible life threatening condition in COVID-19 patients receiving prophylactic or therapeutic doses of anticoagulants. Imaging tests should be requested in order to make differential diagnosis of RSH in case of abdominal pain.

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