

Large Hematoma Of Rectus Abdominis Muscle As A Rare Surgical Case In A COVID-19 Patient

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Abstract – Presented article discusses the case of spontaneous large hematoma of rectus abdominis muscle, developed in a 63-year-old woman during standard in-hospital treatment of COVID-19.

Diagnosis has been confirmed on the basis of clinical, ultrasound and computed tomography findings. Patient underwent conservative treatment, but due to the increase in size of hematoma and patient's worsened general condition, emergency surgical hematoma evacuation and ligation of damaged lower epigastric artery was performed.

Postoperative period passed without complications. Patient discharged at home under ambulatory follow-up by surgeon.

According to this case could be concluded that conservative treatment of rectus abdominis muscle large hematoma is not always successful and careful monitoring and proper surgical treatment is needed to prevent complication and save the patient's life.

Keywords – Rectus Abdominis Muscle, Hematoma, Bleeding, Extravasation.

I. CLINICAL ASPECTS OF THE RECTUS ABDOMINIS MUSCLE HEMATOMA

Hematoma of the rectus abdominis muscle may be interpreted as a tumour-like pelvic or abdominal mass, as well as an “acute abdomen”. It can be formed as a result of damage of upper and lower epigastric arteries or their branches. In most cases, hematoma of the rectus abdominis muscle arises postoperatively or after abdominal trauma. Spontaneous hematoma formation has been described during pregnancy, infectious diseases, collagenosis and anticoagulation treatment [1, 2].

Development of the rectus abdominis muscle hematoma is possible at any age [3]. First symptom of this disease is severe, sudden abdominal pain, which dynamically intensifies [4, 5, 6]. In most cases hematoma is localized in the lower abdomen. Physical examination findings are subfebrile temperature, paleness, tachycardia and painful abdominal palpation. Symptoms of shock can be seen during intensive bleeding [7].

Significant bleeding rarely occurs, if hematoma localizes in upper part of abdomen because blood vessel compresses by the fascia of rectus abdominis muscle. Opposite to this, hematoma of lower part spreads widely and can include few liters of blood [8].

II. DIAGNOSTICS AND TREATMENT

Ultrasound examination has a significant role in the diagnosis of rectus abdominis muscle hematoma, but the “gold standard” of diagnosis is computed tomography (CT) scan with contrast media [6].

Treatment modalities might be both conservative and surgical. Conservative regimen with analgesia and bed rest is sufficient to treat Low volume well defined hematomas. At the same time, bleeding might be profuse and life-threatening, especially when it arises in the lower part of rectus abdominis muscle. In such cases only life-saving treatment is surgery, which includes bleeding vessel ligation and hematoma evacuation [5].

III. CASE PRESENTATION

A 63-year-old female COVID-19 patient which had been hospitalized at the TSMU First University Clinic, department of internal medicine underwent the standard treatment including anticoagulation, antibiotics, hormones and other symptomatic therapy. On the 6th day of hospitalization, at 05:30 in the morning after movement in bed, patient felt severe pain in the left abdomen, dry mouth, shortness of breath, weakness, cold sweat, visible and palpable tumor-like mass in the left abdomen.

IV. OBJECTIVES

Patient was contactable, adequate, confused, passive, pain exacerbation by the movement. Skin and visible mucous were pale.

Vital signs: T – 36.7°C, P – 97', T/A – 130/75 mmHg, R – 23', SpO2 – 96%.

Tongue – dry, abdomen – asymmetric, painful palpation on the left (where a tumor-like mass could be felt). Urination – free with normal urine. No pathology detected by the digital per rectum examination.

By the ultrasound examination free liquid in abdominal cavity was not detected. Lateral and below of left kidney the large size, prolonged, hypoechogenic area of varied consistency was seen that was oval, with high echogenic structure and narrowed line in center. Diagnosis of hematoma had been proposed.

At this time Hb was 11.3 g/dL, Ht – 34.5 %. For conservative treatment and monitoring, the patient was transferred to ICU department and ice was placed on the area of the tumor-like mass.

At 18:00, the patient's general condition worsened: severe weakness, profuse sweating, collapse, dry mouth, asymmetric abdomen poorly involved in breathing.

Vital signs: T/A – 90/50 mmHg, P – 115' R – 24', SpO2 – 90 %. Size of the tumor-like mass was increased by palpation. Increase of the left rectus abdominis muscle size, with blood-like mass of varied consistency and extravasation in area of bladder had been seen by the abdominal CT scan with contrast media (Pic. 1,2,3,4).



Pic. 1. Spread of hematoma between the left rectus abdominis muscle and fascia lata which covers the left half completely and extends preperitoneally. CT examination.



Pic. 2 Sagittal section CT scan after contrast extravasation.



Pic. 3 Hematoma in the left rectus abdominis muscle detected after extravasation of contrast medium during CT examination



Pic. 4 Preperitoneal spread of hematoma

The same time, changes in hematologic indices (Hb - 9.6 g/dL, Ht - 26.6 %) were manifested. Spontaneous large hematoma of rectus abdominis muscle with active extravasation was diagnosed and patient underwent emergency surgical treatment under general anesthesia.

V. SURGICAL MANIPULATIONS AND PROCEDURES

Hematoma was localized between rectus abdominis muscle and fascia lata, spread preperitoneally until the anterior area of the bladder. About 1 liter of blood and blood clots was evacuated and a damaged lower epigastric artery was ligated. The wound was closed after complete hemostasis.

After surgery, patient was admitted to the ICU department, where anemia was corrected by transfusion of erythrocyte masses. Complete evacuation of hematoma was confirmed by the repeated CT scan with contrast media. Wound healing passed without complications. The patient was discharged under ambulatory follow-up by the surgeon.

VI. CONCLUSION

Conservative treatment of rectus abdominis muscle gigantic hematoma may not be always sufficient. If the patient's general condition worsens due to ineffective conservative treatment, proper assessment, decision making and immediate surgical treatment is needed for prevention of serious complication, which was seen in our case. Consequently, in patients with such problems, early surgical treatment should be considered.

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