



Spontaneous rectus sheath hematoma presented to the emergency department with dyspnea and cough

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1. Discussion

Risk factors for rectus sheath hematoma (RSH) include anticoagulation, trauma, pregnancy, recurrent Valsalva maneuvers, recent laparoscopic operations, recent invasive interventions, hypertension, cough, and advanced age.¹ We thought that our patient developed hematoma because she used enoxaparine, had an advanced age, and had cough reflex. Rectus sheath is supplied by epigastric arteries and hemorrhage results from direct injury to these vessels or forced stretch of the sheath itself, which causes the vascular wall to disrupt.² It affects less than 2% of patients presenting with abdominal pain.¹ In some RSH cases blood loss may cause hypovolemia and give rise to signs and symptoms of shock.³ RSH can be treated conservatively or invasively, depending on patient status and bleeding severity. Majority of patients can be managed conservatively because hematoma limits itself².

2. Visual case discussion

A 85-year-old woman with coronary artery disease, atrial fibrillation, and diabetes mellitus presented to our hospital's chest diseases and cardiology departments with cough and dyspnea. Her tests at the outpatient clinic revealed a low hemoglobin level (6.2 g/dL) and thus she was referred to the emergency department. She told that she had had cough and dyspnea for several days and she had recently begun having abdominal pain most severe at the lower abdomen. She had been using aspirin 100 mg tablet, enoxaparine 0.6 mg for previously diagnosed disorders. The hemoglobin were 6.2 g / dL. Axial (a,b), coronal (c) and sagittal (d) contrast-enhanced abdominopelvic computed tomography (CT) shows left rectus sheath hematoma (Fig. 1). She remained stable

during her 6-day admission period, and no surgical intervention was needed.

Questions

- Which diagnostic tool has the highest value in the diagnosis of rectus muscle hematoma?
 - Physical examination
 - Ultrasonography
 - Computed tomography
 - Blood results with history
 - Abdominal puncture
- Which of the following is not a risk factor for rectus muscle hematoma?
 - Anticoagulation treatment,
 - Eecurrent Valsalva maneuvers,
 - Cough
 - Advanced age
 - Comorbid diseases such as diabetes and hypertension

Answers

- c. Ultrasound may also be useful in the diagnosis but with less sensitivity, ranging from 70% to 90% in published reviews. Computed axial tomography of the abdomen is useful in excluding other intra-abdominal processes and is the gold standard with virtually 100% sensitivity and specificity for RSH.¹⁻³
- e. Risk factors for RSH include anticoagulation treatment, trauma, pregnancy, recurrent Valsalva maneuvers, recent laparoscopic and

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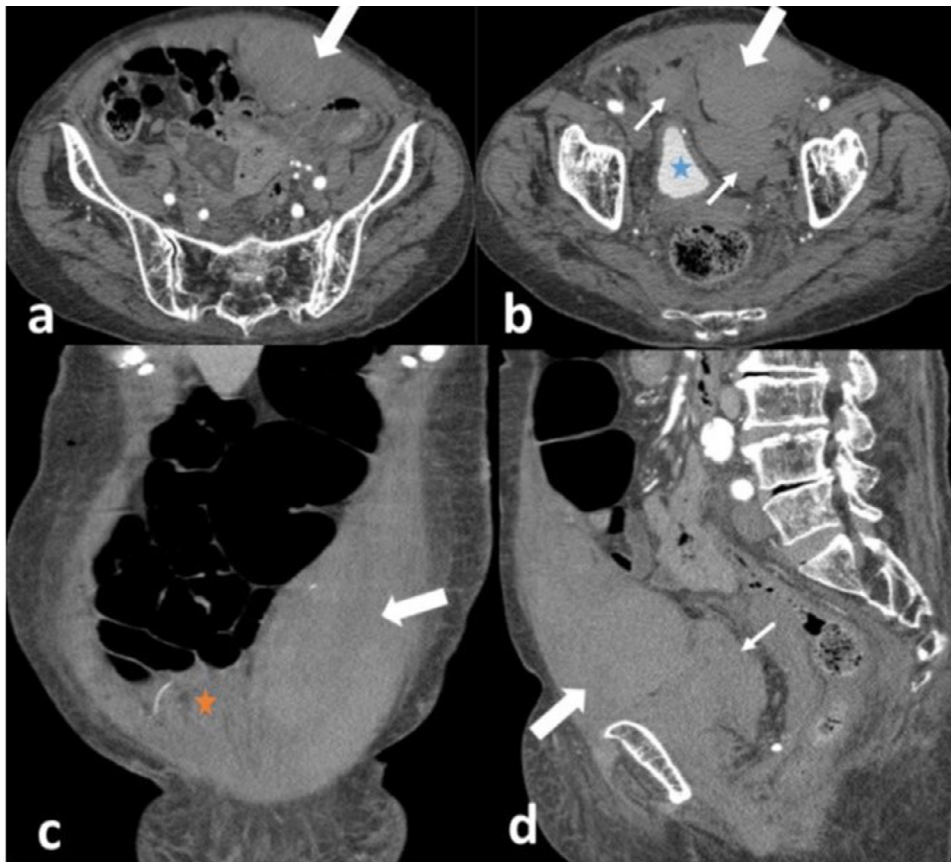


Fig. 1. Type III rectus sheath hematoma[?]. Axial (a,b), coronal (c) and sagittal (d) contrast-enhanced abdominopelvic computed tomography shows left rectus sheath hematoma (thick arrows). The hematoma extends below the arcuate line, into the pelvic cavity and the pre-perivesical space (thin arrows).

*Orange star: Right rectus abdominis muscle in normal size.

*Blue star: Bladder

[?]According to the CT classification proposed by Berna et al. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.).

invasive interventions, cough, and advanced age.¹⁻²

Declaration of Competing Interest

The authors declare that they have no conflict of interest.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.visj.2020.100778](https://doi.org/10.1016/j.visj.2020.100778).

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