SHORT REPORT

Rectus sheath haematoma in elderly patients: a diagnostic challenge

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Abstract

Case reports: we report three cases of rectus sheath haematoma in elderly women. This condition is commonly misdiagnosed at any age but is an even more elusive diagnosis in elderly patients.

Conclusion: it is important to consider rectus sheath haematoma in older patients with an abdominal or pelvic mass or spontaneous abdominal ecchymoses.

Keywords: atypical presentation, older people, rectus sheath haematoma

Introduction

Rectus sheath haematoma is an unusual but well-described clinical entity. ‘Spontaneous’ haematoma is more commonly seen in elderly women, particularly if they are taking anti-coagulants or have a chronic cough or cardiovascular disease [1, 2]. Nonetheless, it is often misdiagnosed, especially if it presents atypically.

We present the case histories of three elderly women with a rectus sheath haematoma, all of whom presented within a month to the same hospital. Their initial presentations were misleading and the correct diagnoses were made only after radiological evaluation.

Case reports

Case 1

An 81-year-old woman presented with lower right-sided pleuritic pain. A preliminary diagnosis of a pulmonary embolus was made and she was given 12 500 i.u. of heparin subcutaneously twice daily. This was discontinued the following day after a normal lung isotope scan. Three days later, she developed right flank and peri-umbilical ecchymoses with no palpable underlying abdominal mass. Her activated partial thromboplastin time had returned to normal (32.9 s; normal range 25–36 s) and her haemoglobin had dropped from 13.3 to 8.9 g/dl. She was transfused. Investigation of her clotting cascade revealed a moderate deficiency of factor XII (42%) which was unlikely to be an aetiological factor. Some intra-abdominal pathology and bleeding was suspected. An abdominal ultrasound scan demonstrated a rectus sheath haematoma measuring 1 x 2.5 x 6 cm. She was managed conservatively and remained stable. She went home 5 days later.

Case 2

An 85-year-old woman was admitted with acute urinary retention after accidentally pulling out her urinary catheter. She was on anti-coagulation therapy following a recent deep vein thrombosis and suffered from urinary incontinence. She had a non-tender palpable mass in her right iliac fossa which persisted after urinary catheterization. An ultrasound scan revealed a cystic mass measuring 9.7 x 6.1 x 7.8 cm and a provisional diagnosis of an ovarian carcinoma was made. Computed tomography confirmed a resolving rectus sheath haematoma measuring 8 x 5.5 cm. On admission her haemoglobin was 11.6 g/dl and her International Normalized Ratio was 2.1 but her anti-coagulants were discontinued upon diagnosis. She had no other clotting abnormalities. She was managed conservatively, remained well and was discharged 4 days later.

Case 3

An 85-year-old woman was admitted with acute urinary retention after accidentally pulling out her urinary catheter. She was on anti-coagulation therapy following a recent deep vein thrombosis and suffered from urinary incontinence. She had a non-tender palpable mass in her right iliac fossa which persisted after urinary catheterization. An ultrasound scan revealed a cystic mass measuring 9.7 x 6.1 x 7.8 cm and a provisional diagnosis of an ovarian carcinoma was made. Computed tomography confirmed a resolving rectus sheath haematoma measuring 8 x 5.5 cm. On admission her haemoglobin was 11.6 g/dl and her International Normalized Ratio was 2.1 but her anti-coagulants were discontinued upon diagnosis. She had no other clotting abnormalities. She was managed conservatively, remained well and was discharged 4 days later.
Rectus sheath haematoma in elderly patients

Case 3
A 78-year-old woman was admitted with general malaise, anorexia and confusion. Overnight, she developed a tender right iliac fossa mass with ecchymoses over her right flank. Her haemoglobin had dropped from 10.6 to 8.4 g/dl and she was transfused. Again, acute intra-abdominal bleeding was suspected and an ultrasound scan showed a rectus sheath haematoma. Coagulation studies were normal and she was managed conservatively.

Unfortunately, her general condition continued to deteriorate with the development of cardiac failure and renal failure. She died of a stroke 5 weeks later. The post mortem examination revealed no obvious cause for the rectus sheath haematoma, which had almost resolved.

Discussion
Rectus sheath haematoma is caused by the rupture of epigastric vessels. The lower quadrants are the most commonly involved, with the upper left quadrant the rarest site [3]. Its location and relatively uncommon occurrence explains why it is frequently mistaken for other more common intra-abdominal pathologies such as strangulated hernia, twisted ovarian cyst, intestinal obstruction, neoplasms, perforated colon or acute appendicitis [1]. The left iliac fossa haematoma masquerading as diverticulitis often presents the largest difficulty. Conditions predisposing to rectus sheath haematoma include anti-coagulation therapy [4, 5], cardiovascular disease, atherosclerosis and a chronic cough [11].

The condition usually presents with sudden onset of abdominal pain. Examination usually reveals a tender abdominal mass. Discolouration of the skin over the affected area usually develops after 3–4 days. Cullen’s sign (peri-umbilical ecchymoses) indicates intra-peritoneal rupture of the haematoma and Grey–Turner’s sign (flank discolouration) is probably secondary to extra-peritoneal extension of the haematoma.

A rectus sheath haematoma was not diagnosed clinically in any of our patients, despite the development of more typical symptoms and signs after an initially atypical presentation. The peri-umbilical and flank ecchymoses are common in rectus sheath haematoma. This intra-peritoneal bleeding may give rise to peritoneal and sub-phrenic irritation and probably explains the presentation with pleuritic pain in case 1. This unfortunately led to inappropriate treatment with heparin which, although brief, probably aggravated the extent of bleeding. The correct diagnosis may also have been overlooked because of the lack of abdominal tenderness. However, absent or atypical pain is well recognized in older patients with conditions that may cause intense pain in younger persons (e.g. peptic ulcer [6] and acute pneumothorax [7]) and may be due to reduced sensitivity to pain with age [8]. When faced with a painless abdominal ‘mass’, tensing the abdominal wall usually distinguishes intraperitoneal from extra-peritoneal disease.

The diagnosis is usually made by ultrasonography but computed tomography, which is more sensitive, is sometimes required [9]. The presentation of a rectus sheath haematoma simulating urinary retention is caused by compression of the bladder wall by the haematoma [10, 11].

Once the diagnosis has been made, any anti-coagulation therapy should be discontinued. A prior knowledge of coagulopathy, iatrogenic or otherwise, should also raise the clinician’s suspicions of rectus sheath haematoma when presented with an abdominal mass [12]. The moderate factor XII deficiency in case 1 was probably an acquired coagulation defect, which is not uncommon in elderly subjects. The effect of this deficiency is to prolong the activated partial thromboplastin time, but since in our patient it did not do so it is unlikely to have caused the haematoma.

Most cases of rectus sheath haematoma can be managed conservatively, although surgical intervention may be necessary if the haematoma fails to resolve. Unfortunately, surgery has been undertaken when an incorrect diagnosis has been made and carries a considerable mortality [3, 13]. Advances in radiological techniques have improved diagnostic accuracy [1] but appropriate radiological investigation and avoidance of surgical exploration require an early clinical suspicion of this condition.

Key points
- Rectus sheath haematoma often presents atypically in older people but should be considered in older patients, usually with abdominal pain, who have an abdominal or pelvic mass or spontaneous abdominal ecchymoses.
- Risk factors include coagulopathy and chronic cough.
- Diagnosis may be confirmed by ultrasound, but this is not always diagnostic so computed tomography may be required.
- Failure to diagnose rectus sheath haematoma may result in unnecessary surgery.

References
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