SHORT REPORT

Surgical Management of Massive Rectus Sheath Haematoma due to Inferior Epigastric Artery Rupture

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We present the case of a 62-year-old lady who was in shock due to continuous bleeding into a rectus sheath haematoma. She was treated by ligation of the inferior and superior epigastric arteries via incisions over the inguinal ligament and the upper rectus abdominis muscle. No attempt was made to evacuate the retroperitoneal component of the haematoma in order to maintain the tamponade.

Keywords: Rectus sheath haematoma; Retroperitoneal haematoma; Epigastric artery.

Introduction

Rectus sheath haematoma is often misdiagnosed, although it is a well documented cause of acute abdominal pain. One study using ultrasound in the investigation of acute abdominal pain showed an incidence of 1.8%.

Rectus sheath haematoma occurs most commonly in elderly (> 60 years) people but has been described occurring spontaneously in young people.

Rectus sheath haematoma is associated with pregnancy, local trauma and surgical procedures. Other risk factors are anticoagulation therapy, hypertension, atherosclerosis and chronic cough. Three types of haematoma can be distinguished by computed tomography appearances. Type I are unilateral and contained within the muscle, type II are uni or bilateral and have blood between muscle and transversalis fascia. Type III rectus sheath haematomas invade the prevesical space or peritoneum and may or may not affect the muscle.

Treatment is usually conservative but occasionally surgical treatment is indicated.

Case Report

A 62-year-old lady was initially admitted to a peripheral district general hospital complaining of chest pain 1 week prior to transfer to our unit. She was treated for unstable angina with a therapeutic dose (calculated by weight) of subcutaneous enoxaparin (Clexane®). Three days before transfer she had experienced severe left sided abdominal pain after twisting awkwardly in bed. That evening after several hours of increasing pain she collapsed with dyspnoea. Investigations revealed a haemoglobin of 6.8 g/dl. A CT scan of the abdomen demonstrated a large retroperitoneal haematoma. She was treated conservatively with cessation of anticoagulation, a seven-unit transfusion of packed cells and fresh frozen plasma. Twenty-four hours later she again became haemodynamically unstable with oliguria. Her haemoglobin had dropped from 11.2 to 8.2 g/dl. A repeat CT scan showed a 30% increase in the haematoma, at which point she was transferred to our unit for further assessment.

On examination the patient was clinically hypovolaemic (pulse 110, BP 105/40) with a large haematoma palpable in the left side of her abdomen extending down into the groin and surrounded by extensive bruising. Haemoglobin on admission was 8.0 g/dl despite continuing transfusion. The INR, APTR and antiFXa levels were within normal limits.
Resuscitation was continued and a further spiral CT angiogram demonstrated an expanding left sided retroperitoneal haematoma displacing the left kidney into the midline and confluent with a large infraumbilical rectus sheath haematoma [Fig. 1]. An arterial blush was demonstrated posteriorly in the left rectus sheath below the level of the arcuate line [Fig. 2]. Due to the continued blood loss and haemodynamic instability it was decided to manage this surgically to control the bleeding. Under general anaesthesia incisions were made over the inguinal ligament and over the upper rectus abdominis muscle on the affected side. The inferior and superior epigastric arteries were identified and ligated. No attempt was made to evacuate the retroperitoneal component of the haematoma in order to maintain the integrity of the tamponade that had developed.

Extubation occurred on the second post-operative day but her eventual discharge was delayed by a chest infection which necessitated continuous oxygen therapy. She was transferred to her original hospital for convalescence 2 weeks later. At 3 months she was suffering minimal discomfort and the haematoma had reduced in size.

**Discussion**

Rectus sheath haematoma may present as acute abdominal pain with or without an associated mass. The diagnosis can be difficult. Rectus sheath haematoma should be considered in cases with predisposing factors such as trauma to the abdominal wall or anticoagulation. Management is guided by the size of the haematoma and haemodynamic stability of the patient. Berna et al. described a series of 12, type II and III rectus sheath haematomas caused by anticoagulation. Conservative management was successful but none of these patients were in shock as a result of their blood loss. Treatment generally consists of rest, analgesia, discontinuation of anticoagulation, transfusion and observation, but may necessitate surgery to control continued haemorrhage. Embolisation can be used to control the haemorrhage. Identification of a bleeding point is useful in guiding management; a massive haematoma that extends into the retroperitoneum may originate from a bleeding inferior epigastric vessel or may be coming from a retroperitoneal structure such as a leaking iliac or abdominal aortic aneurysm. In our case the patient was unstable and progressive expansion of the haematoma was clear on three successive CT scans. A bleeding point in the region of the inferior epigastric artery was identified (see figures) and it was felt that a further period of observation was not in the patients’ best interests; surgical ligation of the blood supply was preferred to embolisation. Continued haemodynamic instability in a patient with type III rectus sheath...
haematoma should prompt close monitoring with serial imaging. Surgical management should be considered if a bleeding point can be identified and if conservative management is unsuccessful. Evacuation of the haematoma is not always necessary and may prolong the duration of a general anaesthetic in a high-risk patient.

References


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