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Case Report

Spontaneous Rectus Sheath Haematoma – "Less is More"

Introduction

Anterior rectus sheath haematoma is a rare condition that typically arises from rupture of the inferior epigastric artery in patients with coagulation disorder, on anticoagulation, or after abdominal trauma. We report an unusual case of spontaneous rupture of the superior epigastric artery following a violent paroxysm of coughing in a young adult with no known coagulopathy. This case highlights the importance of radiology in clinching the diagnosis and aiding in successful conservative management with complete resolution.

Case Presentation

A fit and healthy fifty-five year old lady attended the emergency department with an acute abdomen. She was woken up in the middle of the night by a bout of violent coughing which was followed by sudden-onset severe, sharp pain in the upper abdomen. Initial assessment revealed a tender, irreducible erythematous swelling along the rectus sheath in the right upper quadrant, with no evidence of trauma or clinically detectable herniation. There were no signs of generalized peritonitis, but the swelling was exquisitely tender, tense and stretching the overlying skin.

Management

As patient was haemodynamically stable, a conservative approach was advocated for further evaluation and management. Her serum coagulation screen, haemogram and biochemical parameters were within normal range, a contrast enhanced computer tomography revealed a rectus sheath haematoma likely to have originated from the superior epigastric artery and contained within the rectus sheath (Figure 1). As she remained hemodynamically stable and no correctable predisposing factors were identified, a conservative management plan was put in place. Over the next day she had non-invasive contrast enhanced ultrasonography to delineate any expansion of the haematoma, organisation of the blood clot or further ongoing bleeding. After careful in-hospital monitoring for twenty-four hours, she was discharged home and followed-up regularly in the outpatient clinic, till complete resolution of the haematoma clinically and on serial ultrasounds.

Discussion

While rectus sheath haematoma is a rare pathology to begin with, it is relatively well known to cause a painful, tender swelling as well as mimic features of an acute abdomen. However, it is rare to present in the superior abdominal quadrants and even rarer in an otherwise healthy patient with no history of trauma or recent surgery and no coagulopathy or anticoagulant use [1-3]. Superior rectus sheath haematomas are typically caused by damage to the superior epigastric artery, but are self-limited due to their location within the abdomen. The walls of the bleed include the tendinous intersections of the rectus abdominus and the rectus sheath itself. These boundaries tamponade and effectively treat the bleeding that occurs above the arcuate line. CT angiography and embolization is increasingly becoming the mainstay of ruptured named blood vessels in the human body. We describe a rare case of spontaneous rupture of the epigastric artery, which was treated conservatively rather than with embolization, with complete resolution. The importance of radiology in diagnosing and subsequent management strategies are highlighted in this case report. Sometimes as the paradigm goes 'Less is more'; careful monitoring and serial contrast ultrasound follow-up prevented invasive intervention in the form of angio-embolization. In rectus sheath hematomas caused by rupture of the inferior epigastric artery, the haematoma is not always limited by the rectus sheath and a larger bleed may extend into the pelvic cavity and blood loss may be underestimated [2]. There have been documented cases of rectus sheath hematomas occurring following a bout of coughing [4], but they are more likely to occur in patients who are anticoagulated [1-3], have a history of trauma to the area [2], or as a complication of a previous surgery [3].

A key learning aspect to take from this case was the quick

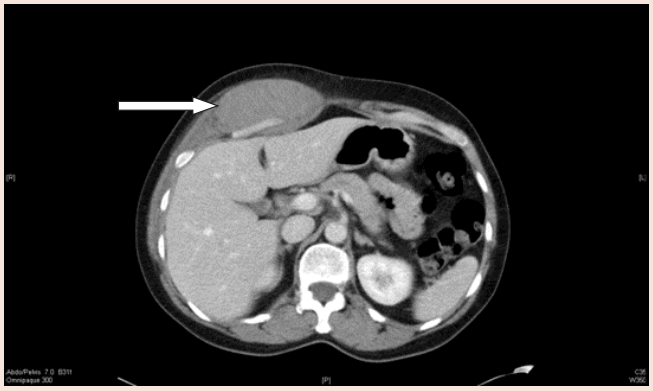

Figure 1: Computer Tomography Scan: Showing Rectus sheath haematoma.

identification based on presentation and physical examination alone. The diagnosis of rectus sheath haematoma was suspected immediately after a thorough history and physical examination, and CT was used to confirm the suspected diagnosis. It has been well documented that high resolution CT is important for quick identification of rectus sheath haematomas [5]. It is of particular importance that the bleed be radiologically confirmed with CT or preliminary ultrasound followed by CT to ensure that an alternative diagnosis is not missed. The location of the haematoma as well as its suspected point of origin can give valuable information as to whether conservative management may be attempted or if urgent intervention will likely be required. Serial outpatient contrast ultrasounds may be a valuable tool to follow the bleed and ensure its resolution, particularly in patients who have a high risk of re-bleeding.

Most often conservative management is attempted in superior rectus sheath hematomas as the bleeding will tamponade itself. In cases necessitating active treatment, anticoagulant reversal (if patient is anticoagulated), fluid resuscitation, and transfusion are typically considered first line. However, if bleeding persists, interventions such as as vessel ligation, angio-, or percutaneous embolization of the bleeding vessels [6] may be considered, and has become increasingly common, particularly when the bleeding has multiple points of origin or the patient remains hemodynamically unstable despite first line treatment. In these cases digital subtraction angiography may be performed and the bleed embolized with absorbable gelatin sponges or microcoils depending on the location and severity of the bleed [6]. Angio-embolization may be considered to avoid larger surgical interventions that are reserved for patients requiring evacuation of large haematomas.

Conclusion

It has been established that including rectus sheath haematoma in the differential is necessary when diagnosing abdominal pathology in those who are elderly, anticoagulated, or have coagulopathy. However, it is important to recognize the potential for spontaneous rectus sheath haematoma in otherwise healthy individuals, particularly those who have had increased intra-abdominal pressure due to paroxysms of cough and are presenting with sudden onset abdominal pain accompanied by an irreducible, palpable mass in the upper abdominal quadrants. While obtaining the history of a patient presenting with acute abdomen, it is helpful to ask directed questions regarding possible mechanisms of increased intra-abdominal pressure. If a possible cause of haematoma can be deduced, exposure to radiation is justified and the diagnosis can be confirmed, which in turn may save the patient from an unnecessary surgical procedure. Although our patient had a self-limiting disorder, in some cases of rectus sheath haematoma a quick and accurate diagnosis based on history and radiologic confirmation, and subsequent speedy conservative management or therapeutic intervention may mean the difference between life and death.

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