



Original article

Spontaneous Haematoma of the Anterior Rectus Abdominis Muscle[☆]



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A B S T R A C T

Introduction: Spontaneous haematoma of the rectus abdominis muscle is an uncommon cause of abdominal pain. It occurs mostly in anticoagulated patients. The objective of this paper is to analyse the onset, diagnosis and treatment in patients under anticoagulant therapy.

Methods: A retrospective analysis of a prospectively maintained database of all patients with a diagnosis of spontaneous haematoma of the abdominal rectus muscle between March 2003 and December 2014.

Results: The study included 34 patients, of whom 28 were women, with an average age of 80 years old. All the patients showed a unilateral infraumbilical haematoma. Twenty-eight patients had received long-term anticoagulant treatment (26 with acenocumarol and 2 low molecular weight heparin); and 6 patients were under anticoagulant prophylaxis with low molecular weight heparin. The diagnosis was performed with ultrasound in 7 cases, computed tomography angiography in 27 patients, and with both methods in 6 cases. The treatment consisted of stopping the anticoagulant drug, correcting haemostasis parameters and blood transfusion when required. Ten patients displayed active bleeding in the computed tomography angiography, and 8 underwent selective arterial embolisation. The evolution was successful in 34 patients, however, 2 patients required surgery and, finally, died due to persistent haemorrhage.

Conclusion: Spontaneous haematoma of the rectus abdominis muscle is more frequent in elderly women under oral anticoagulant treatment. Non-operative treatment is successful in most cases. Computed tomography angiography is useful to determine which patients could benefit from selective arterial embolisation.

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Hematoma espontáneo del músculo recto anterior del abdomen

RESUMEN

Palabras clave:

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Introducción: El hematoma espontáneo del músculo recto del abdomen es una causa infrecuente de dolor abdominal que sucede con mayor frecuencia en pacientes anticoagulados. El objetivo de nuestro trabajo fue analizar la forma de presentación, el diagnóstico y los resultados del tratamiento en este grupo de pacientes.

Métodos: Análisis retrospectivo con una base de datos prospectiva de todos los casos de hematoma espontáneo del músculo recto del abdomen tratados en nuestro centro entre marzo de 2003 y diciembre de 2014.

Resultados: Se incluyó a 34 pacientes (25 mujeres) con una edad media de 80 años. En todos los casos el hematoma fue unilateral e infraumbilical. Veintiocho pacientes recibían tratamiento anticoagulante como parte de su tratamiento habitual (26 de ellos acenocumarol y 2 pacientes heparinas de bajo peso molecular a dosis terapéuticas). Seis pacientes recibían heparina de bajo peso molecular a dosis profilácticas. El diagnóstico se realizó mediante ecografía en 7 pacientes, tomografía axial computarizada con contraste intravenoso en fase arterial (angio-TC) en 27 y, con ambos métodos, en 6. El tratamiento consistió en la suspensión de la anticoagulación, corrección de la hemostasia y reposición hemática. En 10 pacientes se evidenció hemorragia activa en angio-TC y en 8 se realizó embolización selectiva. La evolución fue favorable en 32 pacientes. Dos pacientes fueron intervenidos debido a hemorragia grave persistente y fallecieron.

Conclusiones: El hematoma espontáneo del músculo recto del abdomen es más frecuente en mujeres de edad avanzada y en tratamiento con anticoagulantes orales. La mayoría evolucionan favorablemente con tratamiento no operatorio. La angio-TC es útil para indicar la embolización arterial selectiva en caso de hemorragia activa.

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Introduction

The most common cause of haematomas in the rectus abdominis muscle is trauma. They may occur after surgical procedures, direct trauma to the abdominal wall, subcutaneous injections, insertion of laparoscopic trocars, etc.¹ Although haematomas caused by trauma had been identified in Ancient Greece,^{1,2} the first bibliographic reference is attributed to Maydl in 1882.³ In 1946, Teske presented a case of spontaneous haematoma of the rectus abdominis muscle when he analysed a series of 100 cases, including those caused by trauma.⁴

Less common than haematomas of traumatic origin are spontaneous rectus sheath haematoma (RSH), in which there is no direct trauma responsible for the lesion and the patient's baseline disease or medication have a causal relationship (blood dyscrasia, high blood pressure, oral anticoagulants, use of heparins, respiratory infection or coughing).

Spontaneous RSH is defined as the accumulation of blood in the interior of the muscular sheath due to rupture of the inferior or superior epigastric arteries, or one of their branches.⁵ It is usually more frequent in women and situated in the infraumbilical region. The inferior epigastric artery is most often responsible.

These haematomas may appear with abdominal pain or palpable mass and, occasionally, pose a problem in the differential diagnosis. They represent less than 2% of all cases of abdominal pain treated in the Emergency

Department.⁶ Complications include those derived from the hypovolemic shock caused by the haemorrhage and others such as increased intraabdominal pressure, muscle necrosis, coronary syndromes because of low output, or even patient death.

In the following article, we present an extensive series of patients with spontaneous RSH from a single hospital. The objective is to analyse the forms of presentation of spontaneous RSH, determine the risk factors that favour its appearance and discuss treatment results.

Methods

We have conducted an observational study of the patients who presented spontaneous RSH and were treated at the Hospital Príncipe de Asturias in Alcalá de Henares (Madrid) by the General and Digestive Tract Surgery Department. In accordance with the distribution protocol in the Emergency Department at our hospital, all patients with this disease were admitted to the Surgery ward or, if a coinciding pathology required, they were admitted to other wards but an evaluation by the Surgery Department was requested in all cases. Data was collected prospectively between March 2003 and December 2014.

Excluded from the study were cases of trauma-related RSH, those that presented during the postoperative period after abdominal surgery and those that affected other locations such as the retroperitoneum or iliopsoas muscles.

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