

A Case Report of Abdominal Aortic Aneurysm presenting as an Inguinal Mass

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Abstract

Abdominal Aortic Aneurysms (AAA) is mostly asymptomatic and often detected incidentally. The incidence of AAA and inguinal hernia increases by aging. In rare cases, several pathologies can mimic an inguinal hernia. Expanding AAA can present as the symptom of an inguinal hernia. Also, it can aggregate a stable hernia. In this case, an AAA mimicked an inguinal hernia. The patient of this study is a 67-year-old Iranian man presented with a 3 days history of periumbilical and hypogastric pain and anorexia. On examination tenderness in the right upper quadrant of the abdomen and a 5 × 6 cm mass in the right abdominal region were noted. Ultrasonography incidentally revealed a 7 cm AAA. A Computed Tomography Angiography (CTA) confirmed the diagnosis. The patient underwent an elective AAA surgery. After the surgery, the patient's signs and symptoms were relieved.

Keywords

Abdominal Aortic Aneurysm; Inguinal Hernia; Case Report

Introduction

Abdominal Aortic Aneurysms (AAA) is mostly asymptomatic and often detected incidentally during working up other diseases (concomitant management). The prevalence of AAA increases up to 10% among elderly patients [1]. The incidence of an inguinal hernia is also higher in elderly patients [2].

Because the inguinal canal is communicated with several fascia planes of the body, several pathologies can mimic an inguinal hernia. Studies found that expanding AAA can present as the symptom of an inguinal hernia. Also, it can aggregate a stable hernia [3]. Early diagnosis and treatment of AAA are necessary for prevention of rupture which can lead to death [4]. In this report, an AAA mimicked an inguinal hernia. This surgery was performed on December 05, 2017 at Shohada Hospital, Lorestan province in western Iran.

Case History

A 67-year-old Iranian man presented to our emergency department with a 3 days history of periumbilical and hypogastric pain. The pain was accompanied by anorexia. The pain was not referred or positional. The patient had no complaint of nausea, vomiting, diarrhea or constipation. His past medical history showed no previous disease or surgery. He had a history of 30 pack-years of cigarette smoking. On admission his vital signs were as follows: BP: 110/70, PR: 65, RR: 18, T: 37.1. On clinical examination the patient was oriented and alert; he was not ill or toxic; he had no symptoms of respiratory distress. Heart and lung auscultation revealed no abnormalities. On abdominal examination, there was tenderness in the right lower quadrant of the abdomen and a 5 × 6 cm mass in the right inguinal region.

In laboratory tests, Hb: 13, MCH: 26.9, MCHC: 32, Hematocrit: 35.7, PLT: 138, WBC: 3.9 and K: 5.8 were noted. Other parameters were within normal limits. No abnormality was found in ECG. Due to his abdominal signs, a complete ultrasonography of abdomen, pelvis, inguinal region and scrotum was requested. The results of ultrasonography showed a 7 cm abdominal aortic aneurysm. Furthermore, the aneurysm of iliac artery was observed. Also, A Computed Tomography Angiography (CTA) was arranged to confirm the diagnosis.

Due to the size of an aortic aneurysm, the patient underwent an elective AAA surgery. After the surgery, the patient's signs and symptoms were relieved (Figures 1 and 2).

Discussion

Because the inguinal canal is communicated with several fascia planes of the body, several pathologies can mimic an inguinal hernia. Diverticular abscess, ovarian and testicular torsion, Amyands, De Garengeot or a femoral hernia, ruptured ectopic pregnancy and retroperitoneal masses or haemorrhages are among these pathologies [5,6].

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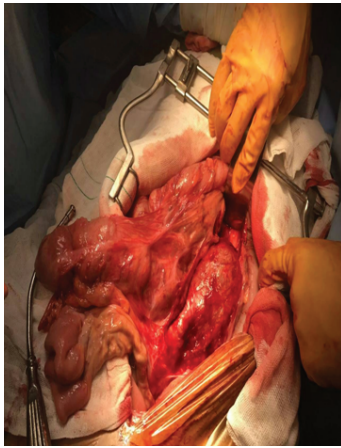


Figure 1: Open repair of AAA. The surgeon made a large incision in the abdomen to expose the aorta. In the open repair, a graft is used to repair the aneurysm



Figure 2: The 7 cm abdominal aortic aneurysm at presentation during performing open repair. The AAA was successfully removed. After the surgery, the patient's signs and symptoms were relieved

In this report, an AAA mimicked an inguinal hernia. The AAA was incidentally diagnosed by ultrasonography and the diagnosis was confirmed by CTA. Several studies reported that patients with a history of an inguinal hernia are at greater risk for developing AAA [1,4]. On the other hand, the prevalence of an inguinal hernia is higher among patients with a history of AAA [2,6]. Also, reports showed that some risk factors are similar between an inguinal hernia and AAA such as male gender, aging, and smoking [7,8]. Furthermore, it seems that similar mechanisms are responsible for developing both diseases.

The underlying mechanisms connecting inguinal hernia and AAA are not fully understood. However, chronic inflammation and connective tissue disorders are suggested as possible mechanisms [7]. Several studies demonstrated that activity of proteolytic enzymes such as collagenase and elastase increases in patients with an inguinal hernia or an aortic aneurysm. This leads to increased metabolism of protein fibers and fiber degeneration [2]. This mechanism also explains why smoking increases the risk of both a herniation and aortic aneurysm [3,4]. Studies also found collagen deficiency in abdominal walls of patients with an inguinal hernia and medial layers of the vessel walls of patients with AAA [3]. Due to increased risk of AAA among patients with an inguinal hernia and similar underlying mechanisms, it seems that screening with ultrasonography is useful to detect the AAA in elderly patients with a history of an inguinal hernia [5,6,9]. A study carried out in 156 over 55-year-old

men with a history of an inguinal hernia found that screening for AAA should be considered among these patients [4]. In contrast, another study carried out in 18331 patients with an inguinal hernia found no significant association between an inguinal hernia and AAA [10]. However, screening for AAA among patients with a history of an inguinal hernia is still controversial.

Patients with an inguinal hernia or AAA both need surgery to relieve their symptoms. The question of which disease should be treated first in patients with AAA and concomitant disorder is still a subject of debate [3,11]. Some studies suggested that surgeons should repair an aortic aneurysm before a hernia. Evidence reported that hernia repair operation leads to negative nitrogen balance and collagenolysis which increase the risk of rupture and related mortality [3]. Therefore screening for AAA is useful for patients with an inguinal hernia before an operation.

Disclosure

The authors declare they have no conflicts of interests.

Key Message

In the approach to a patient, especially in elderly, with a chief complaint of an abdominal mass, we should definitely suspect of Abdominal Aortic Aneurysms.

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