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Presentation of a large jejunal artery aneurysm: Management and review of the literature

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ABSTRACT

INTRODUCTION: Jejunal artery aneurysms (JAAs) constitute less than 1% of all visceral artery aneurysms. They affect mostly men in their fifth decade. In the last years, the widespread of fine cut fine image techniques has increased the number of JAAs diagnosed incidentally. The first case was reported by Levine in 1944. Since then, only a half of hundred cases have been reported. There is a lack of consensus of management of intact JAAs because of the low number of cases published. We present the largest JAA reported in the English literature up to our knowledge.
PRESENTATION: We report a 49 year-old woman with a 4 × 5 cm. intact jejunal artery aneurysm found incidentally in a CT. It rose from the first jejunal branch of superior mesenteric artery without signs of rupture. She underwent elective surgery and the aneurysm was completely excised.
DISCUSSION: Causes of JAAs include congenital, atherosclerosis or degenerative process. Their rate of rupture depends on location, size and underlying disease and it reaches 10–20% for all visceral artery aneurysms. Risk factors of rupture include pregnancy, hyper-flow situations and connective diseases. Most of cases in the literature presented rupture at the time of diagnosis. JAAs are usually treated following the recommendations for visceral artery aneurysms, so intact JAAs greater than 2 cm. and those causing symptoms should be treated. Treatment includes surgery, embolisation or stent. Surgery is the preferred management for emergency settings.
CONCLUSION: JAAs are extremely rare and constitute only 1% of all visceral aneurysms. They are a life-threatening condition.

1. Introduction

Visceral artery aneurysms (VAAs) are a rare condition, with an incidence rate of 0.1–2% [1]. They are usually referred to celiac trunk, superior mesenteric artery or inferior mesenteric artery and their branches. Renal artery aneurysms are not considered under VAA category because of their different origin [2].

The risk of rupture reaches 10–20% with a mortality rate ranging from 10 to 20% depending on location, size and underlying diseases [3]. As a result, they are a life-threatening condition and require especial attention. They most frequently affect men in their fifth decade of life [2].

More frequent locations include splenic artery (60%) followed by hepatic artery (20%), superior mesenteric artery (5%), celiac trunk (4%) and branches of superior mesenteric artery (3–5%). Jejunal artery aneurysms (JAAs) account for 1% of all VAAs [2,4,5].

Although pathophysiology remains uncertain, some causes have been postulated: congenital condition, atherosclerosis, trauma and systematic diseases [4].

In recent years, the improvement in fine-cut computed tomography scans has increased the number of VAAs found incidentally.

In English literature, only a half of hundred true JAAs have been reported, being most of them case reports or short series. In addition, there is a lack of consensus of management for intact VAAs [6].

We report a case of a 4 × 5 cm JAA in a 49 year old woman, diagnosed incidentally that was successfully treated with surgical excision of the aneurysm in the Vascular Surgery Department of our hospital. This is the largest JAA reported in the English literature up to our best knowledge.

This paper has been reported in line with the SCARE criteria [7].

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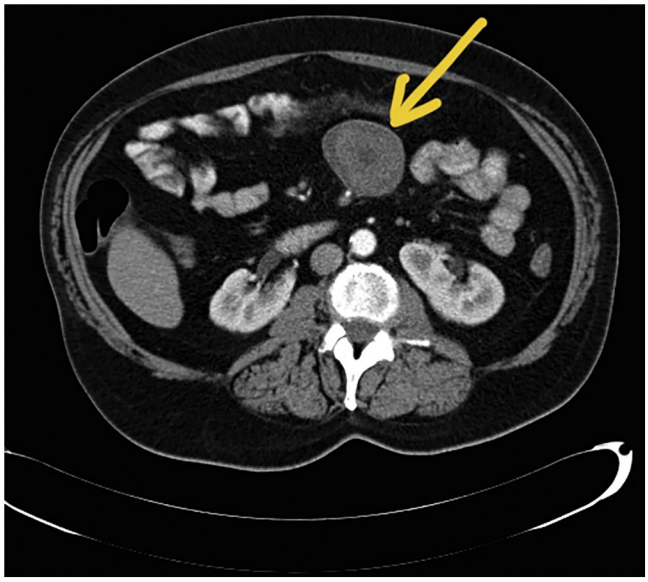

Fig. 1. Computed tomography with intravenous contrast showed a jejunal artery aneurysm rising from first jejunal branch. It was intact without signs of rupture. No other vascular alterations were found.

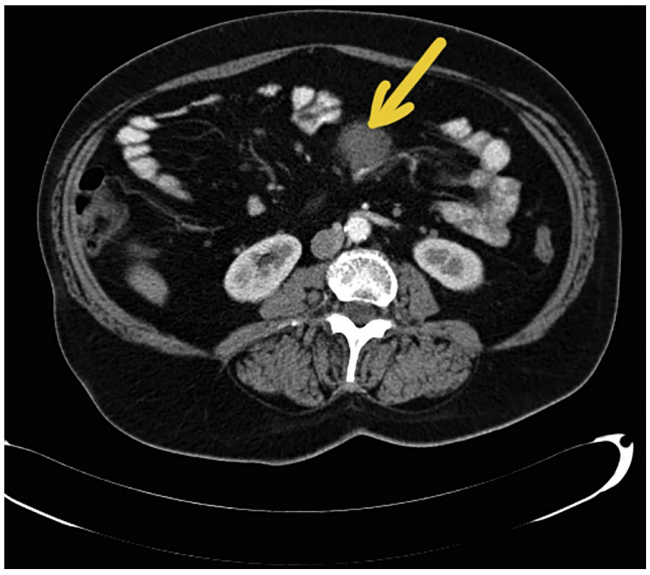

Fig. 2. Computed tomography with intravenous contrast showed a jejunal artery aneurysm rising from first jejunal branch. It was intact without signs of rupture. No other vascular alterations were found.

2. Presentation of a case

We present the case of a 49-year-old woman with no medical history that was admitted to Vascular Surgery Department due to a jejunal artery aneurysm found incidentally in a computed tomography performed to evaluate epigastric hernia. The patient reported neither abdominal pain nor lower digestive haemorrhage.

In physical examination, she was alert, apyrexial, with normal blood pressure (121/60) and 70 heart beats per minute. Her abdomen was soft, depressive and a pulsatile mass was palpable.

Blood test revealed haemoglobin 14.1 g/dL and leucocyte count of 8×10 9/L.

Contrast-enhanced computed tomography revealed a jejunal artery aneurysm of 4×5 cm. across rising from the first jejunal branch of superior mesenteric artery. Neither signs of rupture nor free liquid were shown. No other visceral aneurysms were found. Figs. 1–3.

Due to size, location and the conditions of our institution we chose surgical treatment. The patient underwent elective surgery. A middle laparotomy was performed. A 4×5 cm. true aneurysm depending on first jejunal branch was evidenced, it was intact without signs of rupture. The rest of the abdominal cavity did not present any other alteration. The aneurysm was dissected and completely excised, inflow and outflow vessels were ligated close to the aneurysm, intestinal viability was assessed and resection was not required Fig. 4.

The postoperative period was uneventful and she was discharged 5 days later. Currently, the patient is doing well and she does not present any symptom.

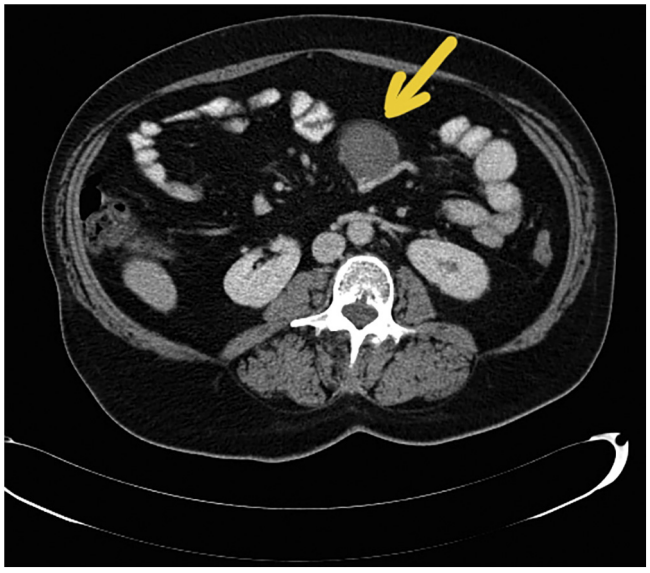

Fig. 3. Computed tomography with intravenous contrast showed a jejunal artery aneurysm rising from first jejunal branch. It was intact without signs of rupture. No other vascular alterations were found.

3. Discussion

In 1770, Beaussier reported the first VAA affecting the splenic artery found out in an autopsy [8].

Later, in 1871, Quincke described a hepatic artery aneurysm causing the classical triad of abdominal pain, haemophilia and obstructive jaundice [9].

Eventually, in 1944, Levine described the first jejunal artery aneurysm in a18 year-old woman that was successfully treated with surgery [8,9].

We highlight that JAAs must be distinguished from pseudoaneurysms as their origin and treatment is throughly different. Pseudoaneurysms or false aneurysms are the result of a wall injury with blood leak contained by adventitia or surrounding tissues. However, true aneurysm is a focal dilatation that exceeds at least 50% of its diameter and affects all the layers of the artery [10]. This paper is only referred to true JAAs.

Although the origin of JAA remains uncertain, congenital is the most common cause followed by connective diseases, atherosclerosis and mycotic aneurysms resulting from haematogenous seeding [2,11]. The risk of rupture depends on location, size and aetiology, being connective disease (Ehlers-Danlos type IV) and hyper-flow situations (pregnancy and portal hypertension) strong risk factors of rupture [2].

We report a case of true JAA without risk factors for VAAs.