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Duodenal obstruction due to aortoduodenal syndrome

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Duodenal obstruction due to aortoduodenal syndrome

Aorta-duodenal syndrome(ADS)is a fairly rare clinic presentation of duodenum obstruction caused by dilated abdominal aortic aneurysm. The main symptoms are usually nausea, vomiting and palpable pulsatile abdominal mass. When it comes to diagnosis, the most useful imaging technique is computed tomography(CT) and the best treatment option is surgery.

KEY WORDS: Aortic aneurysm, Aortoduodenal syndrome, Duodenal obstruction

Introduction

Aortoduodenal syndrome (ADS) is a rare clinical condition in which a gastric obstruction occurs as a result of direct extrinsic compression of the duodenum by an abdominal aortic aneurysm.A few cases have been reported in literature,although the syndrome was described for the first time by Osler [1] in 1905. The main complaints at presentation are nausea and vomiting, and the presence of a palpable pulsatile mass upon examination. Computed tomography (CT) is the most common imaging method in diagnosis, and the primary treatment option is surgery. The present manuscript presents a case of ADS accompanied by a left common iliac artery stenosis which was treated with conventional surgery.

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Case Report

A 68-year-old male patient presented at our emergency department complaining of nausea, vomiting and abdominal pain for the last three days. The initial examination did not elicit any finding of acute abdomen other than epigastric tenderness. A pulsatile mass was detected upon examination. Laboratory tests showed normal findings other than an electrolyte imbalance. The patient's past medical history was unremarkable for abdominal surgery. The obtained computed tomography scans revealed the etiological cause to be a 4.5 cm infrarenal abdominal aortic aneurysm with mural thrombus adjacent to the second and third parts of the duodenum protruding into the distal portion of the duodenum from posterior to anterior and a left common iliac artery stenosis (Fig. 1). An upper gastrointestinal tract (GIT) endoscopy was performed for a differential diagnosis due to the persistence of vomiting, although no intraluminal pathology was detected. The electrolyte imbalance was corrected and the patient's clinical condition was considered to be consistent with aortoduodenal syndrome. The patient had gastric outlet obstruction, accompanied by an abdominal aortic aneurysm and iliac artery stenosis, for which the

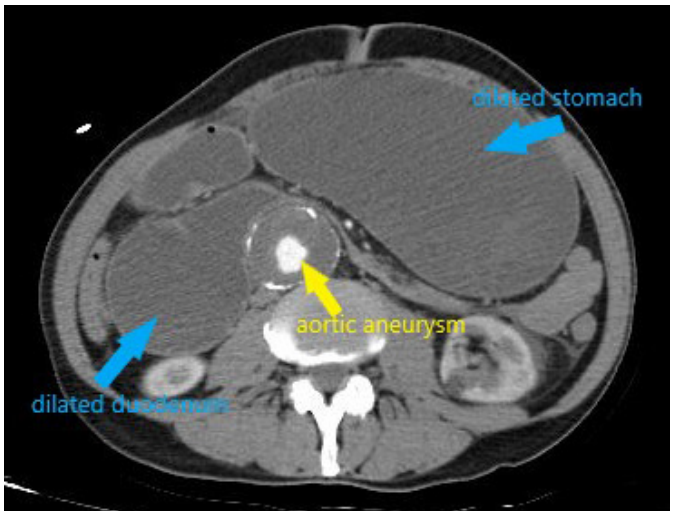

Fig. 1: Preoperative aortic aneurysm anda dilated duodenum and stomach.

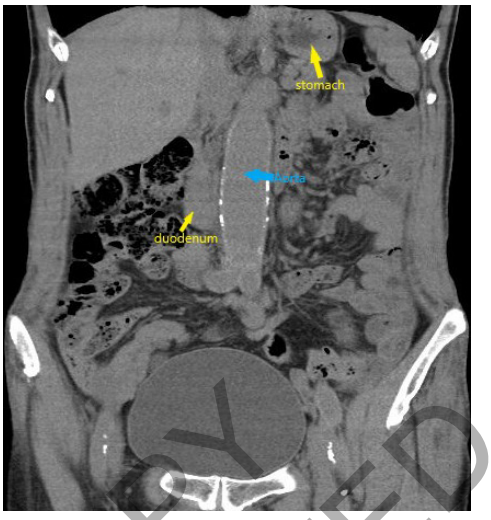

Fig. 2: Postoperative aneurysm , normal stomach and duodenum.

patient underwent aorto-right iliac, left femoral bypass surgery. The patient was discharged on postoperative day six without any symptoms. A control CT revealed that the preoperative pathologies in the stomach, duodenum and at the aortic graft site were corrected (Fig. 2).

Discussion

Gastrointestinal complaints caused by extrinsic compression of the duodenum by the aorta are referred to as aortoduodenal syndrome, which is a rare clinical condition. Literature contains only case reports, and it would seem that ADS often occurs in males aged 60 years and older. Nausea and vomiting secondary to mechanical obstruction are common presenting symptoms, while electrolyte imbalance and weight loss can be observed, secondary to persistent vomiting. A pulsatile palpable mass may be detected, the likelihood of which is directly proportional to the diameter of the aortic aneurysm. This clinical entity must be kept in mind in patients presenting with a gastric outlet obstruction and a pulsatile abdominal mass, or in those with a known aneurysm [2]. CT is the most commonly performed procedure in patients with suspected aortoduodenal syndrome. A CT can easily identify the diameter of the aneurysm, its relationship with the duodenum and renal artery, the localization of the compression and any secondary proximal enlargement. A contrast-enhanced examination of the upper gastrointestinal tract and an upper GIT endoscopy can be made to either confirm the diagnosis, or to rule out the alternative causes of duodenal obstruction.

In a review of 26 patients with aortoduodenal syndrome, Deitch et al. [2] reported a mean aneurysm diameter of 79 mm. Ahn et al. [(3)] claim that an abdominal aortic aneurysm (AAA) measuring 40 mm or higher can cause ADS. The diameter of the aneurysm in the present patient was measured as 45 mm. Although the diameter of the aneurysm in the present case did not suggest a high risk of rupture, the decision to carry out conventional surgery was made due to the accompanying ileus and the total occlusion of the iliac artery.

Initial therapy should include fluid-electrolyte replacement therapy after making the diagnosis [4]. Historically, the first option in symptomatic patients has been to perform gastric bypass surgery (gastrojejunostomy/duodenojejunostomy) in order to relieve the obstruction, and mortality has decreased significantly with the improvements in aortic surgery,with studies reporting an increasing success rate [5]. The EndoVascular Aneurysm Repair (EVAR) technique has been widely used in recent years, and there are studies in literature reporting low morbidity and mortality rates [6]. There are also recent reports on cases with ADS who were successfully treated with the EVAR technique as an alternative method to open surgery. There is however, no data on an objective comparison of the EVAR technique and open surgery that could guide treatment selection due to the rare occurrence of ADS, and the fact that publications are limited to case reports [6].

Aortoduodenal syndrome is an extremely rare clinical condition in which a gastric obstruction occurs as a result of direct extrinsic compression of the duodenum by an abdominal aortic aneurysm. Such a clinical entity must be kept in mind when presented with patients who are found to have a pulsatile abdominal mass upon examination.

Open aortic surgery currently offers successful and reliable outcomes, although the EVAR technique is also among the alternative treatment options.

Riassunto

La sindrome aorto-duodenale (ADS) è rappresentata da un tipo abbastanza raro di ostruzione ab estrinseco del duodeno determinata dalla dilatazione di aneurisma dell'aorta addominale.
I sintomi principali sono solitamente nausea, vomito e massa addominale palpabile e pulsante. Per quanto riguarda la diagnosi strumentale la tecnica di imaging più utile è la tomografia computerizzata (CT) ed il trattamento più efficace è quello chirurgico.

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