

An Uncommon Cause of Duodenal Obstruction

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Summary

This is a case report of an elderly male, who presented with duodenal obstruction caused by abdominal aortic aneurysm. An axillo-bifemoral shunting with an infra renal straight inlay graft together with a feeding jejunostomy was performed. This is rare presentation with only a few cases reported.

Key Words: Duodenal obstruction, Abdominal aortic aneurysm

Introduction

Patients with abdominal aortic aneurysm are usually diagnosed because of local symptoms produced by vascular mass or distant symptoms attributed to either ischemic or embolic phenomenon. Gastrointestinal symptoms may be present in 55% of these patients¹.

Duodenal obstruction secondary to extrinsic compression from an abdominal aortic aneurysm is a very rare condition. This case was first described by Osler (1905) and in 1986 Hodgson et al reported 14 cases in the literature^{2,3}.

Case Report

A 72 years old, Malay male was initially admitted to a general surgical unit of a peripheral hospital with history of persistent vomiting and generalized abdominal pain for five days prior to admission. Clinically they found him to be dehydrated with a distended abdomen. There was generalized tenderness with absent bowel

sounds. He was diagnosed as having intestinal obstruction and underwent a laparotomy. However, intraoperatively they noted 600mls of haemoserous fluids with an abdominal aortic aneurysm. An on-table diagnosis of leaking aneurysm was made and the procedure was abandoned and patient was managed in ICU. After a few days when he was stable, CT scan abdomen was done and revealed a 7cm aneurysm with no leak. The duodenum and stomach was distended. The patient was then transferred to our vascular unit for further management. He had a past medical history of hypertension and diabetes mellitus, which was fairly well controlled.

Physical examination revealed a weak and dehydrated man. His vital signs were stable and he was afebrile. His abdomen was distended with a recent surgical scar. Bowel sounds were absent and a succession splash could be elicited. There was a pulsatile mass measuring 8 centimetres in the left hypochondrium. All distal pulses were present and equal bilaterally.

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Discussion

Aneurysms of the intra-renal aorta are uniquely situated to exert compressive effects on 3rd and 4th portion of the duodenum. However, it is surprising to note that obstruction is not more common. In a study of 100 consecutive patients with abdominal aortic aneurysm. Sondheimer and Steinberg found that 55% had abdominal symptoms and only 4% had nausea and vomiting after eating. Radiographic gastrointestinal studies often show the expected mild compressive effects of a large abdominal aortic aneurysm on adjacent structures ^{2,3}.

Review of the previous 13 reported cases revealed a strong male predominance and a prevalence towards the elderly. The average age was 66 years. (range 45 to 80 years). The most consistent symptom was vomiting which was present in all 12 cases that have been reported in detail. Abdominal pain, distention, weight loss electrolyte disturbances and plain radiograph calcifications were each present in approximately half of these patients.

The time between onset of the symptoms of duodenal obstruction and diagnosis of abdominal aortic aneurysm was highly variable, ranging from 2 days to 7 years. The aneurysms with which this complication has been reported have all been large with a range of 5 to 9.5cm in diameter ^{1,2,3}.

The case we reported is different from previous reported cases, as the abdominal aortic aneurysm was discovered only at the initial laparotomy for intestinal obstruction. We further investigated him to confirm that the aneurysm was the cause of his obstructive symptoms prior to the aneurysm surgery.

In our patient the enlarged aneurysm was directly compressing on the duodenum causing obstructive symptoms. There were minimal

adhesion bands present and no erosion into the lumen of the duodenum. This is contrary to, Coster et al who suggested that the posterior wall of the duodenum must be adherent to the lateral aspect of the aneurysm in order to induce the foreshortening of the posterior wall that effectively closes off the duodenum ².

Surgical intervention was undertaken in 11 of the 13 reported cases. Prior to the advent of aortic replacement treatment was mainly palliative. Of the seven operated cases in the post aortic replacement era, four have undergone replacement with the remaining three having palliative gastrojejunostomy. Two of the seven operated cases died in the post operative period, one whom was treated with replacement and the other anterior gastrojejunostomy.

With recent advances and decline in mortality in elective aortic replacement, it has become the therapy of choice for most patients. In high risk patients extra-anatomical bypass with illiac artery ligation has been suggested, it could be coupled with a gastrointestinal bypass to relieve duodenal obstruction ³.

The diagnosis should be entertained in elderly patients with an aneurysm, who present with symptoms of bowel obstruction. An upper gastrointestinal series and a CT scan is helpful in making a diagnosis. With operative mortality of 5% in elective aortic replacement, resection of the aneurysm is the treatment of choice. An intestinal feeding of some type should be placed at the time of surgery, as these patients are slow to resume peristalsis. As was with all patient, prolong use of parenteral nutrition has it's associated complications. As most of these patients are elderly with associated underlying medical illness, significant morbidity and long term hospitalization can be expected, adequate pre-operative fluid and nutrition resuscitation is mandatory.

CASE REPORT

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