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Segmental Jejunal Lipomatosis - A Rare Cause of Intestinal Obstruction -

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A rare case of a segmental small intestinal (jejunal) lipomatosis is described. A 33-year-old male was admitted with a clinical diagnosis of an acute intestinal obstruction. A plain erect abdominal x-ray showed multiple air-fluid levels. On an exploratory laparotomy, a jejunojejunal intussusception was found secondary to a segmental submucosal lipomatosis. This was treated by a segmental resection and anastomosis, which resulted in a complete cure. Here we present this case with a review of the relevant literature.

Key Words: Jejunum, intussusception, lipomatosis, surgery

INTRODUCTION

Lipomas of the gastrointestinal tract (GIT) are uncommon lesions of which one third are located in the small gut.[1] Most intestinal lipomas are solitary and submucosal in location. Diffuse nodular lipomatosis is a rare variety of adipose tissue accumulations in the small intestine. Discrete, encapsulated lipomas are the third most common benign tumor of the small intestine. Lipomatosis of the intestine causing an obstruction is an extremely rare condition. Here we present a case of segmental multiple lipomas in the jejunum presenting as an intestinal obstruction (intussusception).

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CASE REPORT

A 33-year-old male presented with severe colicky abdominal pain and complained of vomiting over the previous two days. Vomiting typically occurred three hours after eating meals, it was copious in quantity, and contained food particles eaten the previous day. There was no history of hematemesis, melena or a history of similar episodes.

On examination, the abdomen was soft with a vague mass palpable in the left hypochondrium and a hyperperistalsis was present. A plain, erect X-ray of the abdomen showed a gaseous dilatation of the bowel loops with multiple air-fluid levels. All other laboratory tests were within normal limits. The patient did not respond to conservative measures, and as a result he underwent surgery within 24 hours of admission.

An exploratory laparotomy indicated, the cause of the acute intestinal obstruction to be a jejunojejunal intussusception, approximately 60 cm from the duodenojejunal flexure. The intussusception was reduced and the segment of the jejunum with the jejunojejunal anastomosis was resected. The cut section showed multiple submucous lipomas i.e., segmental jejunal lipomatosis (Fig. 1). No obvious lipomas were present in the rest of the GIT, which was found to be grossly normal intra- operatively by inspection and palpation. Histopathology revealed a jejunal lipomatosis, jejunal diverticulae, and serositis due to intussusception (Fig. 2). The postoperative period was uneventful. The patient has been completely free of symptoms after six follow-up examinations.

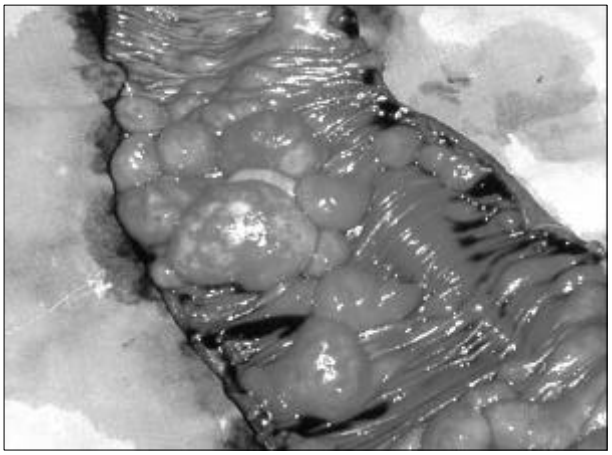

Fig. 1. Resected jejunal segment showing multiple lipomas.

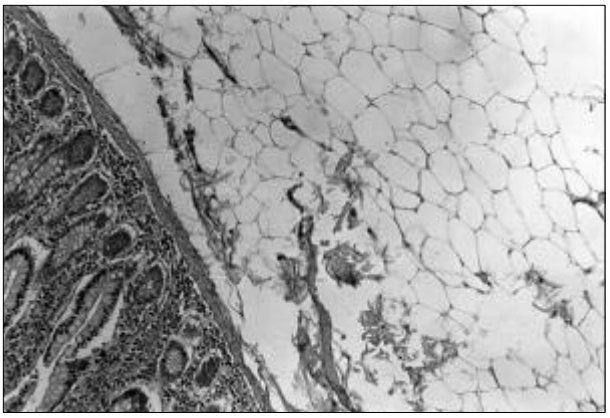

Fig. 2. Photomicrograph showing the jejunal mucosa, adipose tissue in the submucosa and scattered acute inflammatory cells (H & E, ×10).

DISCUSSION

Abnormal deposits of mature adipose tissue in the intestine may take one of the following four morphological forms. (1) a single circumscribed lipoma (2) multiple circumscribed lipomas (3) diffuse nodular lipomatosis i.e., an irregularly thickened bowel wall with numerous soft, rounded, confluent yellow nodules projecting into the lumen and (4) a diffuse adipose tissue infiltration of the submucosa without tumor formation.[2] In addition, there is no sex or age predominance. Discrete, encapsulated lipomas are the third most common benign tumor of the small intestine. Lipomas of the small bowel characteristically grow in the submucosa. Grossly they appear as bright yellow, round, encapsulated tumors that bulge upward into the mucosal surface. The majority of these tumors are solitary and approximately 5% are multiple. These should be distinguished from the rare condition known as lipomatosis, in which a segment of the bowel (on occasions the entire organ) is infiltrated by mature fat, sometimes in association with diverticulosis or intussusception, as was found in our patient.[3,4] The cause of such lipomatosis is not known. The proliferation of fat cells may be confined to the submucosa or may extend to the mesenteric and serosal fat. The muscularis propria is usually unaffected. The overall appearance is that of a localized or diffuse monomorphic hamartomatous malformation.[1] They are known to be associated with multiple subcutaneous lipomas or as a diffuse infiltration of fat in the pancreas causing malabsorption due to an exocrine pancreatic insufficiency.[5]

Any of the above mentioned groups of lipomas in the intestine may remain asymptomatic or become symptomatic when they present as an intestinal obstruction due to an intussusception as in our patient or as a volvulus, intestinal hemorrhage as a result of ulceration which is usually due to either an intussusception, torsion, gangrene or a simple erosion of the lipoma surface. Four types of intussusception are generally recognized: enteric, ileocolic, ileocecal and colonic. Our patient had the enteric (jejunojejunal) variety of intussusception, which is the most common form encountered in adults, occuring in approximately 40% of cases. These tumors are responsible for almost two thirds of these cases and more than half of these lesions are benign (lipomas, polyps, neurofibromas, leiomyomas, fibromas, hemangiomas and hamartomas).[6]

Radiological studies are particularly useful for diagnosing an intussusception. A plain film of the abdomen sometimes shows either a partial or complete intestinal obstruction. However, it is not possible to reach a definitive diagnosis on this information alone. Occasionally, the plain film will show a sausage-shaped, homogeneous soft tissue density outlined by two strips of air, representing the air-filled sheath. A barium contrast examination is the most useful diagnostic procedure, and this is preferred to a water-soluble

contrast because the former provides more anatomic detail.[7]

The usual associations with intestinal lipomatosis are diverticulosis and malabsorption.[8] In our case, there were no diverticula on a gross examination of the resected specimen. However, histology revealed a small diverticula in the mesenteric border, which was probably in the early stage of development. Acquired diverticula of the small intestine are pulsion in type, whose features were documented by Edwards[9] and reviewed by Ranchod et al.[5] They are situated on the mesenteric border of the intestine, and occur in pairs in the early stages of development, one on either side of the mesenteric attachment. With progressive growth, these paired diverticula fuse to form a large diverticulum that is embedded in the leaves of the mesentery. The location of these diverticula is related to defects in the muscular coat produced by the major branches of the straight artery. It is more probable that the diffuse nodular variety of lipomatosis plays a contributory role in the genesis of these diverticula. Malabsorbtion is due to either the overgrowth of bacteria in the diverticula1 or to fat infiltration of the pancreas causing an exocrine pancreatic insufficiency.

If the anastomosis is confined to that segment, a surgical resection of the involved segment of the gut is the most effective treatment. However, there is no uniform consensus in the treatment of patients with multiple lipomas involving a large segment of the gut particularly those located in the submucosal plane.[1]

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