

Pneumatosis Cystoides Intestinalis

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Abstract

Pneumatosis cystoides intestinalis is a rare condition. Presented here is a case report of a patient who was admitted with acute abdomen and was operated upon. The gross morphology and histological features of the specimen were consistent with Pneumatosis cystoides intestinalis.

Key Words

Pneumatosis cystoides intestinalis, Pneumatosis coli, Necrotizing enterocolitis, Emphysematous gastroenteritis.

Introduction

Pneumatosis coli and pneumatosis cystoides intestinalis of the small bowel are conditions in which multiple gas filled cysts are seen in the gut without any definite evidence of infection (1). This condition is known to occur both in infants as well as in the adults (2, 3). In infants it occurs as a component of necrotizing enterocolitis and often has a fatal outcome (4), whereas in adults, it usually presents as an idiopathic finding (2). Clinically the patients present with variety of signs and symptoms including crampy abdominal pain, diarrhoea, constipation and abdominal distension. Pneumatosis cystoides intestinalis is usually discovered on radiological examination, during endoscopy or at laparotomy.

Case Report

A 54 year old male presented in the emergency with complaints of recurrent abdominal pain and vomiting since last six months. There was no history of bleeding per

rectum. The patient was a heavy smoker and had been having moderate to severe dry cough for the past two years. General physical examination and all the baseline investigations were within normal limits. The abdomen was distended with increased bowel sounds. Plain x-ray abdomen showed features of intestinal obstruction and the patient underwent laparotomy.

On gross examination numerous grapelike small cysts devoid of any contents were seen on the serosa and mesentric border of the resected gut (Fig.1). Cysts varied in size from 1.0 to 1.5 cms. in diameter. Crepitus could also be elicited while handling the specimen. Cut section showed similar cysts in the mucosa and submucosa. On microscopic examination, variable sized cystic spaces lined by macrophage like cells, admixed with an occasional giant cell were seen in the submucosa (Fig. 2). A few cysts, which were smaller in size were

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devoid of any lining, suggesting that they were probably of recent origin. A diagnosis of pneumatosis cystoides intestinalis was made, based on the gross and microscopic findings.



Fig. 1. Photograph of the resected small gut showing multiple gas filled cysts (arrow).

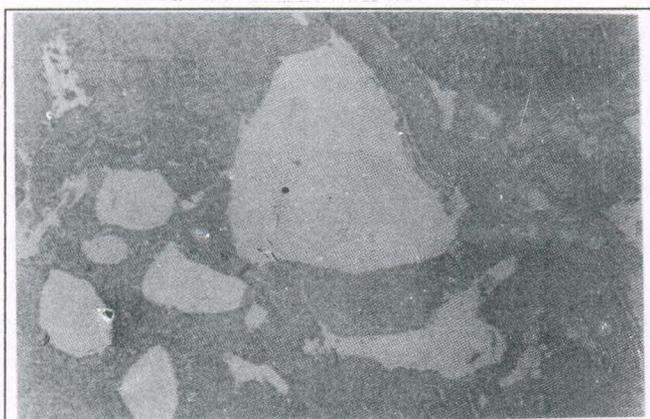


Fig. 2. Photomicrograph showing numerous cysts in the submucosa, overlying mucosa is normal (100 x)

Discussion

A large number of intestinal disorders have been associated with pneumatosis coli including peptic ulcer, ischemia, chronic inflammatory disorders, chronic obstructive airway disease and cystic fibrosis (5). When not associated with other abnormalities, it usually follows a chronic indolent course, although in some cases it may

produce signs of intestinal obstruction. The gas within the cysts is similar to flatus comprising of atmospheric air with added hydrogen and methane (1). Bacterial cultures of the gas cysts are usually sterile. It is generally believed that the increased intraluminal pressure within the gut forces the luminal gas into the bowel wall through the mucosal defects and from here it penetrates the muscularis mucosae to accumulate in the forms of submucosal cysts (1). A localized form of this rare entity is also encountered and is known as mucosal pseudolipomatosis (6). It represents a lesion related to pneumatosis in which the gas filled cysts are very small and limited to lamina propria only, thus resulting in an endoscopic pattern that simulates lipomatosis (6). Another disease entity that needs to be differentiated from pneumatosis coli is emphysematous gastroenteritis which is characterized by secondary pneumatosis of the bowel by infection with gas forming organisms like *Clostridium welchii*.

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