

# GIANT JEJUNAL DIVERTICULOSIS, A RARE CAUSE OF UNEXPLAINED WEIGHT LOSS

Nida Rauf, Shayan Rashid Khawaja, Muhammad Ali Rauf, Khalid Farooq

Department of Radiology, Gurki Trust Teaching Hospital, Lahore, Pakistan.

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## ABSTRACT

A 42 year old male with a family history of gastric cancer presented to GI outdoor clinic with unexplained weight loss and anaemia. He had a history of acid peptic disease and frequently experienced upper GI symptoms. The weight loss, anorexia and low grade fever were initially suspected to be signs of underlying ulcerative pathology or malignancy. However endoscopic evaluation was negative for both. When a CT abdomen pelvis was performed as part of workup, it revealed giant diverticulosis of major portion of jejunum, a rare condition with only a handful of known cases. A literature review of this condition suggested that diverticulosis of small bowel can lead to malnutrition and possibly explains the symptoms in our patient.

## Introduction

Giant diverticulosis of jejunum is a rare condition which can be an unsuspecting cause of chronic weight loss. In a study conducted at university hospital Leuven, jejunoileal diverticula were reported to affect 0.5 to 2.3 percent of individuals in radiographic series and up to 7 percent in autopsy studies.<sup>1</sup> Usually asymptomatic, its clinical presentation varies from non specific chronic abdominal pain to malabsorption and anaemia.<sup>2</sup> In our case, a 42 year old male with a history of peptic ulcer disease had gradually developed symptoms of weight loss, easy fatigability and anorexia. Endoscopic evaluation revealed mild gastritis and duodenitis. CT abdomen pelvis with contrast showed extensive giant jejunal diverticulosis with mild abdominal inflammation. This in correlation with patient's biochemical workup explains his weight loss and anemia secondary to chronic malnutrition.

## Case Report

A 42-year old male patient presented to GI OPD with

**Correspondence :** Dr. Nida Rauf  
Department of Radiology,  
Gurki Trust Teaching Hospital,  
Lahore, Pakistan.  
Email: nida@kemu.edu.pk

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a history of significant weight loss about 7 kgs over a period of 3-4 months. This was accompanied by anorexia and low grade fever. He had a history of acid peptic disease and frequently experienced episodic epigastric pain and vomiting which were treated symptomatically. He had no other known comorbidities as well as no past surgical history. Family history was significant for gastric cancer in first degree relatives (2 siblings). Complete blood picture revealed anaemia as Hb 9.3 g/dl (14-18g/dl), Hct 29.4% (36-46), MCV 72.1 fL (75-95fL), MCH 22.9 pg (27-32 pg), platelets mild raised at  $474 \times 10^9/L$  ( $150-400 \times 10^9/L$ ), and normal WBC count  $9.47 \times 10^9/L$  ( $4-11 \times 10^9/L$ ). Stool for occult blood was negative making ulcer bleed unlikely. LFTs showed hypoalbuminemia as albumin was 2.4 g/dl (3.5-5.5 g/dl), and hypoproteinemia as total proteins were 5 g/dl (6.0-8.3 g/dl). Total bilirubin and liver enzymes were within normal range. ESR was normal with normal RFTs. Urine complete examination was also unremarkable ruling out renal loss of albumin and proteins.

Endoscopy was performed which revealed whitish plaques in the lower half of oesophagus secondary to oesophageal candidiasis, mild hyperaemia of antral gastric mucosa and hyperaemia of duodenal bulb. Ultrasound findings were inconclusive besides mild ascites and extensive air shadowing that seemed continuous with bowel lumen. CT abdomen pelvis with contrast revealed multiple large sized diverticula in jejunum (size varying from 3-5 cm) (Fig.B), beginning in proximal jejunum and extending to almost entire length of it (Fig.B & C). Although no other radiologically appreciable diverticula were found in large gut, endoscopy/ enteroclysis correlation was requested. Small amount of pelvic ascites and few benign mesenteric lymph nodes showed non specific mild abdominal inflammation. Mild non specific gastric wall thickening was noted. An incidental note of jejunal polyp was also made (Fig.A). There were no CT findings to suggest intestinal obstruction, haemorrhage or perforation. Patient was counselled about his condition and discharged with antibiotic and dietary modification. An OPD visit was scheduled for follow-up.



**Figure A:** Axial Post-contrast image at the level of pancreas.



**Figure B:** Axial Post-contrast image. Marked area shows two giant diverticula hanging from jejunum.



**Figure C:** Coronal reformatted image showing multiple giant diverticula hanging from small bowel. Incidental note is made of a polyp (Marked in Blue)

## Discussion

Diverticulosis is defined as multiple sac-like protusions along the alimentary tract. In Asia, diverticulosis has a prevalence of approximately 13% to 25%. In western countries, its incidence is 50-70% in patients older than 80 years. As for the distribution of diverticula, 65% are just limited to the sigmoid colon, 25% involve sigmoid plus other colonic diverticula, 7% pan colonic diverticula, while diverticula isolated to a segment proximal to the sigmoid colon is only 4%.<sup>3</sup>

Small bowel diverticulosis develops as the mucosa and submucosa of bowel wall herniates through its muscular layer<sup>4</sup> (pseudo-diverticula) potentially through weak points. These weak points comprise areas where the blood vessels infiltrate the muscular wall. When affected, most common location is proximal jejunum (75%), followed by distal jejunum (20%) with least common involvement being of ileum (5%). Co-existent diverticula can be encountered in other segments of the bowel such as colon (30-75%), duodenum (15-42%), oesophagus (2%), stomach (2%) and urinary bladder (12%).<sup>5</sup>

Traditionally it was believed that diverticulosis is the disease of elderly, mainly affecting patients in their mid-late 60s however a more recent review of literature proves its incidence is increasing in middle ages. For example in a study of Nationwide Inpatient Sample

(NIS) of 267,000 admissions for acute diverticulitis, incidence rates increased among groups 18 to 44, and 45 to 64 years of age (incidence per 1000 population: 0.151 to 0.251, and 0.659 to 0.777, respectively)<sup>6</sup> though the prevalence of this disease increases with advancing age. A direct association between visceral body fat and the disease was also found. As in this study, it was found that diverticulitis and diverticulosis were associated with a significantly higher visceral fat area to subcutaneous fat area ratio (VFA:SCFA), than the control group ( $p = 0.005$ ,  $p = 0.019$ ).<sup>7</sup>

The symptoms of small bowel diverticulosis are attributed to pseudo-obstruction or bacterial overgrowth.<sup>8</sup> The real challenge in its early diagnosis is an overlap of symptoms with other more common diseases which often leads to misdiagnosis. For example its most common presentation could merely be non-specific epigastric pain and a bloating sensation. This would be most likely linked to APD and not investigated further. Such patients inadvertently present in emergency with complications of this condition. In this case a 65 year old was admitted with a possible diagnosis of acute appendicitis however the intraoperative findings were diverticular disease of small bowel with intestinal perforation, haemorrhage and abdominal sepsis.<sup>9</sup> Similarly, in this case where a 79 year old woman was hospitalised with a newly diagnosed diffuse liver pathology. During hospital stay, she developed acute abdominal pain with a suspected diagnosis of peritonitis secondary to acute appendicitis. The explorative laparotomy however identified a purulent exudation in the abdominal cavity, resulting from a perforated inflammatory jejunal diverticulum and multiple middle-size diverticula all along the small bowel and the colon.<sup>10</sup>

Thus it is important to keep this rare condition in mind when dealing with a patient with non specific chronic abdominal pain, unexplained weight loss, or anaemia. A delay in the diagnosis is not only debilitating for the patient as it causes insidious malabsorption, but is also associated with a high mortality rate of 20 to 40 per cent<sup>11</sup> in the setting of complications. Management of this condition varies with patient's symptoms. Usually asymptomatic diverticulosis is left as it is with dietary modifications such as high fibre diet. Malabsorption is treated with required supplementation while antibiotics are reserved for uncomplicated diverticulitis.

Complications such as that presenting with perforation, bleeding and obstruction are treated with resection of diverticula-containing segments with primary reanastomosis.<sup>12</sup> Patient's suitability for surgery as well as length of remaining segment varies as there is a risk of short gut syndrome with extensive involvement.

**Conflict of Interest:** None

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