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Massive Gastric Dilatation Secondary to Duodenal Tuberculosis: A Case Report

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Abstract: ***Primary duodenal tuberculosis is an uncommon disease. Massive gastric dilatation secondary to duodenal tuberculosis is even a rarer event. A case is reported of a 40 year old lady who presented with gastric outlet obstruction with massive gastric dilatation. Endoscopy and CT scan abdomen was non-diagnostic. With the impression of duodenal stricture secondary to peptic ulcer cicatrisation and to rule out duodenal malignancy, she was operated in view of complete duodenal obstruction. The diagnosis of duodenal tuberculosis was made post-operatively.***

Keywords: Duodenal tuberculosis, Massive gastric dilatation, Gastric outlet obstruction, Duodenal stricture, Duodenal obstruction

1. Introduction

Tuberculosis is still a major heath problem and is rampant in developing countries like India. Although it mainly involves the lungs, involvement of the abdomen is not uncommon. Ileo-caecal tuberculosis accounts for 85% of all cases of abdominal tuberculosis [1]. The oesophagus, stomach and duodenum are rare sites for tuberculosis because of bactericidal property of gastric acid and scarcity of lymphoid tissues in their wall [2]. Gastric outlet obstruction is one of the most common clinical features of duodenal tuberculosis presenting as recurrent projectile vomiting, epigastric pain and abdominal distension due to gastric dilatation [3]. Massive gastric dilatation; due to gastric outlet obstruction; is a life threatening entity. When the stomach is extremely distended occupying the whole abdomen from diaphragm to pelvis and from left to right, it is called as massive gastric dilatation [4]. Massive gastric dilatation results from either obstructive cause, or non-obstructive cause; and rarely both; as in tuberculosis. Anti-tubercular drugs along with endoscopic balloon dilatation are the initial treatment of choice: if duodenal tuberculosis is diagnosed preoperatively, if obstruction is partial, and if patient's condition permits. Surgery should be the last option if the diagnosis of this disease is difficult preoperatively or if dilatation fails [5].

2. Case Report

A 40 year old female was admitted to surgical emergency with a 48 hours history of recurrent projectile vomiting, pain upper abdomen, and abdominal distension. She had history of dyspeptic symptoms including upper abdominal pain and fullness, naseua, and occasional vomiting for the last 2 years. She often used to visit a nearby medical centre and was prescribed antacids for her dyspeptic symptoms. There was no history of fever, chronic cough, hemoptysis, haematemesis, malena, jaundice, anorexia and weight loss. There was no family history of tuberculosis. General physical examination was unremarkable except for pallor and visible abdominal peristalsis. Complete blood count was within normal limits except her haemoglobin, which was 9 gm%. She was negative for HIV. Chest x-ray was normal and there were no any bowel fluid levels in the x-ray abdomen. Ultrasonography abdomen showed a grossly distended stomach filled with solid foods. Nasogastric suctioning returned only 2 litres of greyish semisolid materials. Upper GI endoscopy showed complete obliteration of first part of duodenum. Biopsy was not taken as patient needed surgery to relieve the obstruction. An abdominal computed tomography was immediately obtained after resuscitation which revealed a massive gastric dilatation; with stomach occupying the abdominal cavity entirely from diaphragm to pelvis (figure 1); with ill-defined thickening/mass of 1st part of duodenum. The next day she underwent exploratory laparotomy with retrograde gastro-jejunostomy. The stomach was massively distended with no signs of necrosis or hemorrhage. Kocherisation of duodenum showed duodenal mass of 1st and proximal 2nd part of duodenum with enlarged para-duodenal lymph nodes. Rest of the abdominal organs were normal. Post-operatively, histopathology of duodenal mass biopsy and lymph node showed chronic granulomatous inflammation with areas of caseating necrosis and langahns type giant cells (figure 2). She was started with anti-tubercular drug therapy and completed 6 months course.

Figure 1: CT scan abdomen showing massive gastric dilatation

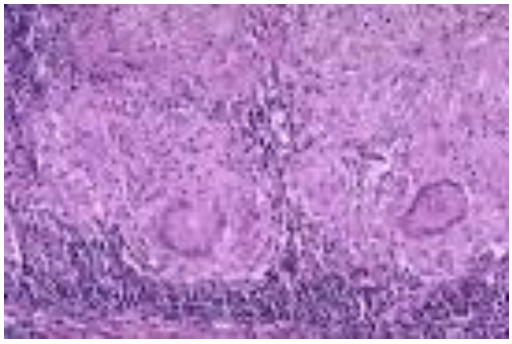

Figure 2: Histopathology of duodenal mass showing granulomatous inflammation

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3. Discussion

Tuberculosis is a major health problem in India with estimated 30 lakh new cases of tuberculosis every year [2]. Abdominal tuberculosis accounts for 2-5% of all cases of tuberculosis, with estimated 1-2 lakh cases of abdominal tuberculosis every year. Ileo-caecal region is the commonest site of abdominal tuberculosis (85%) and gastro-duodenal region is the least common site (0.5-2%) [1-3]. Primary duodenal tuberculosis or granulomatous duodinitis is even a rarer entity [5, 6].

Duodenal tuberculosis most likely results from hematogenous spread, lymphatic spread or direct extension from near-by lymph nodes [3]. Duodenal tuberculosis present mainly as gastric outlet obstruction; due to extrinsic compression by matted lymph nodes or by intrinsic strictures [7-9]. It may also present with fever, weight loss, abdominal distension and upper gastro-intestinal bleed. It may result in massive gastric dilatation, with necrosis and perforation of the wall and fistula formation with adjacent organs.

The diagnosis of duodenal tuberculosis is difficult as there is no any pathognomonic clinical feature and radiological features are non-specific. Endoscopic mucosal biopsy was usually not helpful as tubercular granulomas are located in submucosa. Endoscopy is vital only if higher numbers of biopsies (8-10) are taken and with the better targeting of lesion [1].

Computed tomography scan reveals the complications of gastric outlet obstruction such as gastric dilatation, gastric wall pneumatosis, portal venous gas, fistula formation with adjacent organs, and involved lymph node groups. However it does not have any characteristic features of duodenal tuberculosis. Endoscopic ultrasound guided FNAC is very helpful in obtaining histo-cytological diagnosis from the lymph node groups involved in duodenal obstruction. If available, EUS is highly sensitive and specific and is recommended in patients with gastric outlet obstruction to reach diagnosis [3].

Management of duodenal tuberculosis should be medical first to relieve obstruction. Anti tubercular drugs along with serial endoscopic dilatation is the treatment of choice. If available, endoscopic controlled radial expansion (CRE) balloon dilatation is effective and safe method for the treatment of duodenal tuberculosis. Immediate relief from the vomiting depends on the degree of obstruction but the long term result varies in different studies [3, 10]. Surgery should be considered in patients who do not respond to endoscopic dilatation or where the facility of endoscopic dilatation is not available or where preoperative diagnosis is difficult as in this case.

In conclusion, any patient presenting with gastric outlet obstruction, duodenal tuberculosis should be considered as a rare cause, especially in Indian sub-continent.

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