



DUODENAL TUBERCULOSIS PRESENTING AS SUPERIOR MESENTERIC ARTERY SYNDROME- CASE REPORT AND REVIEW OF LITERATURE

General Surgery

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ABSTRACT

BACKGROUND-Abdominal tuberculosis is an increasingly common disease with variable presentations. In GIT, the most common site for tuberculosis is ileocecal region with gastro-duodenal involvement seen in only 1 to 2% of all cases. Narrowing of the third part of duodenum, which is the most common site of duodenal tuberculosis, may give the impression of Superior Mesenteric Artery Syndrome. We report here two unusual cases of duodenal tuberculosis that presented as Superior Mesenteric Artery Syndrome.

CASE SUMMARY- Two females of 22 and 25 years of age presenting with the chief complaints of pain all over abdomen and multiple episodes of vomiting for about 4 months along with a history of bloating, early satiety and weight loss. Multiple enlarged hypodense necrotic periportal, portocaval and mesenteric lymph nodes were noted in one case while a duodenal stricture was noted in the other. Both the patients were successfully managed by laparoscopic duodenojejunostomy followed by anti-tubercular treatment for a period of one year with a complete recovery and no post-operative complications.

KEYWORDS

Duodenal Tuberculosis, Sma Syndrome, Laparoscopic Duodenojejunostomy, Mesenteric Lymph Nodes.

INTRODUCTION

Gastrointestinal tuberculosis has become a major health problem in Tuberculosis endemic countries. Tuberculosis affects all portions of gastrointestinal tract with the most common site affected being Ileocaecal junction and the least common site being esophagus.[1] Involvement of Gastro-duodenal segment is seen in only 1 to 2 % of the total gastrointestinal tuberculosis cases.[2] Primary duodenal tuberculosis is an extremely rare entity with only a few cases reported in literature.[3]

Duodenal obstruction following tuberculosis presents with a symptom complex resembling Gastric Outlet Obstruction, which along with the radiographic findings of compression of third part of duodenum gives the impression of Superior Mesenteric Artery Syndrome.

We report here two rare cases of primary duodenal tuberculosis which presented as Superior Mesenteric Artery syndrome.

CASE REPORT

CASE 1

A 20-year-old female presented with the chief complaints of pain in abdomen and vomiting for 4 months. The pain was upper abdominal, dull aching in nature spreading all over the abdomen. It was non-radiating and non-referring in nature. Pain was accompanied by multiple episodes of vomiting. Vomiting was projectile, bilious in nature and often contained undigested food particles. Along with pain, patient also had complaints of bloating, early satiety and significant weight loss. Patient was thin built with a BMI of 15kg/m² and mild pallor was present. On examination, abdomen was soft with mild tenderness present mainly in epigastric and umbilical region. Bowel sounds were normally present.

Routine blood examination was essentially normal except the hemoglobin concentration of 8.9 g/dl suggestive of anemia. Chest radiographs were essentially normal.

An upper GI endoscopy was performed which revealed extrinsic compression over third part of duodenum with some mucosal abnormality gave suspicion for Superior Mesenteric Artery Syndrome. To know the cause of extrinsic obstruction, a contrast enhanced CT scan of the whole abdomen was performed. CT scan findings were contrary to our suspicion. It showed distended stomach and grossly

dilated first and second part of duodenum with abrupt narrowing of third part near the Superior Mesenteric Artery Pedicle. However, the aortomesenteric angle and distance were 21 degrees and 10mm respectively, both being within normal limits. Also, multiple enlarged hypodense necrotic periportal, portocava l and mesenteric lymph nodes were seen.



Fig. 1 Contrast enhanced CT scan image showing mesenteric lymph nodes around duodenum with distension of stomach and proximal duodenum.

CASE 2

A 25-year-old female presented with the chief complaints of pain all over abdomen associated with multiple episodes of vomiting. As in previous case, pain was dull aching in nature mainly present over epigastrium and umbilical region. Pain was non radiating and non referring in nature. Vomiting, as in previous case, was projectile, bilious and also contained undigested food particle. It was accompanied by loss of appetite, fatigue and significant weight loss. Patient was thin built with a BMI of 17kg/m². On abdominal examination, abdomen was doughy but bowel sounds normally present. Routine blood examination revealed mild anemia with a hemoglobin concentration of 7.9g/dl. Rest was within normal limits with a normal liver and renal function tests. Chest X-ray performed as part of routine examination was normal.

Esophago-gastro-duodenoscopy revealed a stricture at third part of duodenum through which the scope passed with difficulty. To confirm

the diagnosis and plan a treatment, a contrast enhanced CT scan of whole abdomen was performed which showed circumferential thickening of third part of duodenum.



Fig.2 Contrast enhanced CT scan image showing thickening of duodenal wall

MANAGEMENT

Both the patients were planned for a laparoscopic intestinal bypass procedure. Intraoperatively, in case 1, a group of matted lymph nodes were found compressing the third part of duodenum including duodeno-jejunal junction. Lymph node was sent for histopathological study. However, in case 2, a stricture was present at third part of duodenum that caused obstruction. Laparoscopic duodeno-jejunostomy was performed in both the cases. Postoperative period was uneventful with the return of bowel sounds on day 2 in case 1 and day 3 in case 2. A gastrograffin study was performed in both the patients on day 4 which showed normal position, distensibility and outline of stomach, duodenal cap, duodenum and rest of the bowel with no contrast leak from the site of anastomosis.



Fig.3 Gastrograffin image showing normal passage of contrast in CASE 1

Following the normal gastrograffin study, both the patients were orally allowed on day 5. Anti-tubercular treatment was started in both the cases and continued for a period of 1 year. The histopathological reporting of lymph node confirmed the diagnosis of tuberculosis. Both the cases were followed up for 1 year. They recovered well with significant gain of weight. No postoperative complications were observed.

DISCUSSION

Gastro-duodenal segment is a rarely involved segment of gastrointestinal tuberculosis. When tuberculosis causes obstruction in third part of duodenum, the clinical and endoscopic picture becomes very much identical to superior mesenteric artery syndrome.

Another case similar to our case was reported by GD Bakshi, WA Ansari et al (2005) wherein patient with symptom complex of gastric outlet obstruction had obstruction at third part of duodenum. The cause of obstruction was matted lymph nodes with a normal aortomesenteric angle and aortomesenteric distance.[4]

However, unlike our case, a case was reported by B Shuchi, M Biswajit et al [5] where the patient had duodenal obstruction with a reduced aortomesenteric angle of 17.5° and aortomesenteric distance of 5.7 mm. The patient was started on Anti-tubercular treatment and got relieved with the gain of weight. The possible explanation given was narrowing of aortomesenteric angle as a result of loss of mesenteric fat following extensive weight loss due to tuberculosis. Another similar case was recorded by CS Limaye, SP Karande et al. [6] where tuberculosis caused extensive weight loss that caused loss of mesenteric fat planes which was recognized as the cause of Superior Mesenteric Artery Syndrome.

CONCLUSION

Gastroduodenal tuberculosis is a rare entity presenting as gastric outlet obstruction. We present here, two rare cases of primary duodenal tuberculosis, thus highlighting the need for suspicion of tuberculosis in patients with upper GIT obstruction, especially in TB endemic areas. The cause of gastroduodenal obstruction in TB being either stricture or external compression by lymph node.[7] High index of suspicion with a timely diagnosis raises the possibility of an effective medical management as significant regression of lesions is observed with anti-tubercular treatment and hence, might preclude a surgical procedure.[8] However, surgical bypass procedure still remains a definitive procedure.

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