



Gastric Outlet Obstruction: Report of an Exceptional Case

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Although gastric outlet obstruction is a common condition, etiology could not be determined in a few cases by means of clinical features, radiological, and endoscopic examination, resulting in substantial diagnostic dilemma. A case is being described where a 30-year-old male presented with anorexia, dyspepsia, vomiting, low-grade fever, and weight loss for 2 months. Results of routine laboratory tests were within normal limit except elevated erythrocyte sedimentation rate. Abdominal computed tomography scan demonstrated a gastric outlet obstruction by an antral mass with mild enhancement of the area. Upper gastrointestinal endoscopy depicted an ulcerated and friable mass with an irregular shape and surface at pylorus resulting in pyloric obstruction. Endoscopic biopsy revealed only chronic gastritis with regenerative changes of epithelium. As the patient was not relieved of obstruction by conservative management, Billroth Type II gastrectomy was done. Histopathological examination of the resected specimen revealed caseating granulomas with acid-fast bacilli. Finally, the patient was diagnosed as primary gastric tuberculosis after exclusion affection of other organs and antituberculous medications was initiated. A good response to antitubercular treatment was noted after 5 months. Stomach being an uncommon site of tuberculosis and as it can occur in patients with no risk factors or characteristic symptoms, diagnosis of such rare condition remains a diagnostic enigma.

Key words: Gastric outlet obstruction, antral mass, primary gastric tuberculosis, histopathology

INTRODUCTION

Gastric outlet obstruction is a common condition that requires urgent intervention. Obstruction can occur in an acute setting secondary to acute inflammation and edema or more commonly in a chronic setting secondary to scarring and fibrosis. Major benign causes of gastric outlet obstruction are peptic ulcer diseases, gastric polyps, ingestion of caustics, pyloric stenosis, congenital duodenal web, gallstone obstruction (Bouveret syndrome), pancreatic pseudocyst, and bezoars. Among infective conditions, gastric tuberculosis is one of the rarest causes of gastric outlet obstruction.¹ Gastric antral carcinoma is the most common type of malignancy causing gastric outlet obstruction. Other tumors that may obstruct the gastric outlet include pancreatic carcinomas, ampullary and duodenal carcinomas, cholangiocarcinomas, and metastases from other primary malignancies. Ulcers located within the pyloric channel and first portion of the duodenum are usually responsible for the outlet obstruction.²

Primary gastric tuberculosis is an extremely rare condition and it may present with features of gastric outlet obstruction.³ One such case is being described where clinical features and endoscopic examination could not determine the cause of obstruction and consequently generated considerable diagnostic paradox.

CASE REPORT

A 30-year-old male presented with anorexia, dyspepsia, vomiting, low-grade fever, and weight loss for 2 months. Laboratory investigations revealed hemoglobin (Hb) level of 11.2 g/dl and an elevated erythrocyte sedimentation rate (126 mm/h). Other hematological and biochemical investigation (differential leukocyte count, coagulation studies, blood glucose, urea, creatinine and liver function test)

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were all within normal limit. Serology tests were negative for different viral markers for hepatitis B, C, and HIV (HBsAg, anti-HCV, HIV I and II antibodies). Abdominal computed tomography scan (with contrast) discovered a gastric outlet obstruction by an antral mass with mild enhancement of the affected area. Upper gastrointestinal (GI) endoscopy revealed gastroesophageal reflux disease, hemorrhagic and erosive gastritis. An ulcerated and friable mass of irregular shape and surface was noted at pylorus causing pyloric obstruction [Figure 1]. Another small ulcer covered with slough was also present at prepyloric antrum. Rapid urease test was negative. Endoscopic biopsy from pyloric growth was taken and histopathological study revealed chronic gastritis with regenerative changes of epithelium without any evidence of invasive neoplasm.

The patient was admitted in our institution and was treated for gastric outlet obstruction conservatively. However, as the patient was not relieved of the obstruction by medical management, a Billroth Type II gastrectomy was performed. The resected specimen was sent for histopathological examination.

Grossly, an ulcer measuring 5 cm × 2.5 cm × 1.2 cm was seen at the antrum and prepyloric region with circumferential thickening of the wall [Figure 2]. Histopathological examination of the ulcerated area revealed several coalescing and caseating epithelioid granulomas in the lamina propria and submucosa [Figure 3]. Granulomas were also noted in the regional lymph nodes. Acid-fast staining revealed several acid-fast bacilli [Figure 4]. A diagnosis of gastric tuberculosis with regional tubercular lymphadenitis was rendered.

Clinical examination of other system and relevant investigations (chest radiograph, ultrasonography of abdomen, upper GI barium study, colonoscopy, etc.) did not reveal any evidence of tubercular infiltrate of other organs. The patient was relieved of features of obstruction. The healing of abdominal wound was uncomplicated. Consequently, the condition was finally diagnosed as primary gastric tuberculosis.

The patient was treated with a category IV regimen of antitubercular drug and response to therapy after 6 months was excellent.

DISCUSSION

Secondary involvement of GI tract by tuberculosis secondary to pulmonary tuberculosis was a common occurrence in the early 1900s, especially in patients with far advanced lung infection.⁴ Fortunately, after introduction of antitubercular therapy, occurrence of pulmonary tuberculosis with clinically evident secondary gastrointestinal involvement has reduced from 38% to <5%.⁴⁻⁶ However, GI tract remains

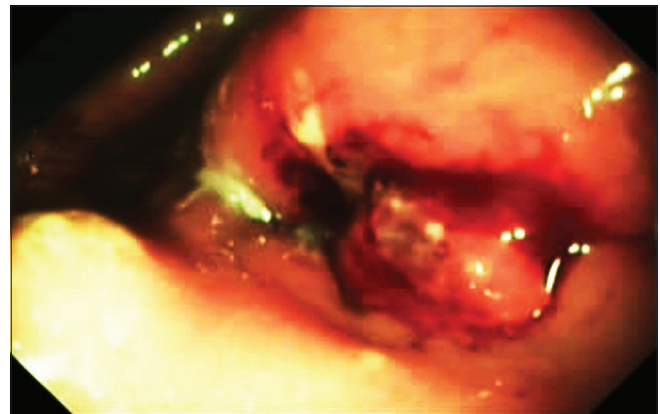


Figure 1: Endoscopic view of an ulcerated and friable mass of irregular shape and surface at pylorus



Figure 2: Gross examination of the resected specimen showing an ulcer of irregular shape at antrum and prepyloric region

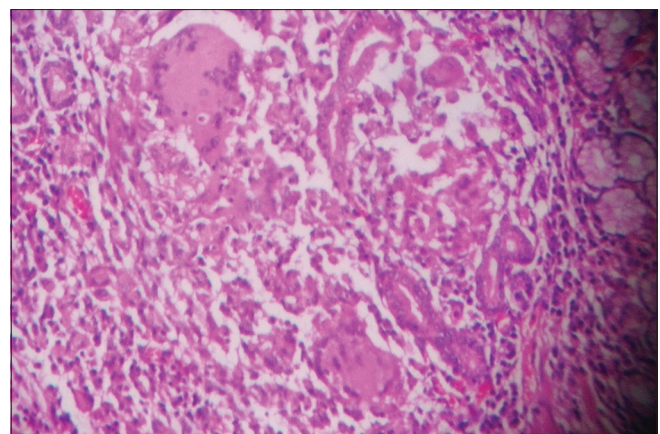


Figure 3: Histopathological section showing a caseating epithelioid granuloma and Langhans type giant cells. The gastric glands are present in the right upper corner (H and E, ×400)

the sixth leading location of extrapulmonary tuberculosis. Stomach is an uncommon site for extrapulmonary

Gastric outlet obstruction

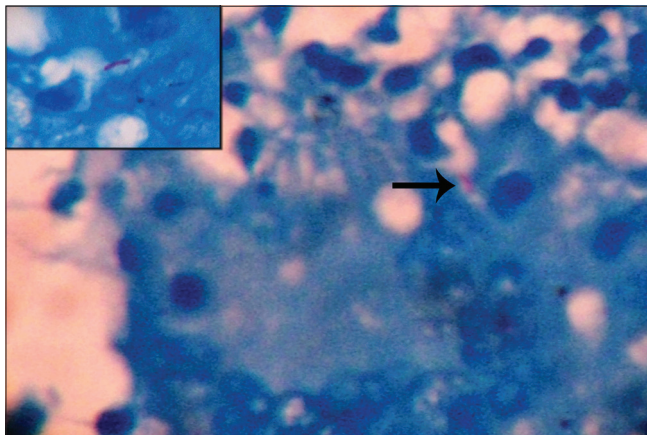


Figure 4: One acid-fast bacilli (arrow) near a Langhans giant cell. Inset showing the AFB in higher magnification (Ziehl-Neelsen, $\times 100$, Inset-Ziehl-Neelsen, $\times 400$)

tuberculosis, even in geographic areas where intestinal tuberculosis is common. This can be explained by gastric acid secretion, continuous motor activity of the stomach, and scarcity of lymphoid follicles in the gastric wall.⁷ Gastric tuberculosis, in recent times, constitutes 0.5%–3% of all cases of gastrointestinal tuberculosis, most of which are secondary to pulmonary tuberculosis.⁸ Primary gastric tuberculosis without evidence of involvement of other systems is very rare cases of isolated gastric tuberculosis without evidence of pulmonary involvement have been reported sporadically.^{7,9-13} Possible routes of infection of stomach include direct infection through the mucosa, hematogenous or lymphatic spread, and extension from neighboring tuberculous lesion.⁷ The incidence of gastric tuberculosis is 0.03%–0.21% in all routine autopsies and 0.34%–2.3% in autopsies of cases having pulmonary tuberculosis.⁹

Gastric tuberculosis may be associated with immunodeficiency;¹⁴ bulk of such cases are from developed countries. However, in the present case, no clinical features of immunodeficiency were observed and HIV status being negative.

The present case presented with gastric outlet obstruction which clinically and endoscopically mimicked gastric carcinoma. Moreover, as obstruction was not relieved by conservative management, a distal gastrectomy was undertaken. Clinical manifestation of this type of infection is often nonspecific, thereby resulting in considerable diagnostic dilemma. There are reports of isolated gastric tuberculosis presenting as pyrexia of unknown origin,¹⁰ gastric outlet obstruction,¹⁵ Crohn's disease,¹⁶ and rarely stomach perforation.¹⁷

Diagnosis of gastric tuberculosis can be done by histological study of resected specimens or by endoscopic biopsy. The latter is rarely successful in achieving the appropriate diagnosis.

Submucosa and subserosa are usual location of lesion¹⁰ and endoscopic biopsy may fail to detect deeper lesions. Surgical interventions are unavoidable in most patients, and diagnosis of gastric tuberculosis is often done after histopathological study. Similarly, in our patient, conclusive diagnosis was achieved after surgery and histopathological examination. Although noncaseating granulomas are seen in Crohn's disease, sarcoidosis, and idiopathic granulomatous gastritis, confirmatory diagnosis of gastric tuberculosis can only be done by the bacteriologic identification with acid-fast staining or culture.^{7,10} In this patient, clinical features, characteristic granuloma in histopathological study, and identification of acid-fast bacilli had confirmed the diagnosis. Once the diagnosis is confirmed, complete cure can be achieved with a course of oral antitubercular medication.

CONCLUSION

Primary gastric tuberculosis may raise a diagnostic challenge due to its extreme rarity and unusual presentation. Therefore, a high degree of suspicion is necessary to diagnose this condition as it can occur in patients with no risk factor or characteristic symptoms.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Misra SP, Dwivedi M, Misra V. Malignancy is the most common cause of gastric outlet obstruction even in a developing country. *Endoscopy* 1998;30:484-6.
2. Dogo D, Yawe T, Gali BM. Gastric outlet obstruction in Maiduguri. *Afr J Med Med Sci* 1999;28:199-201.
3. Ecka RS, Wani ZA, Sharma M. Gastric tuberculosis with outlet obstruction: A case report presenting with a mass lesion. *Case Rep Med* 2013;2013:169051.
4. Thoeni RF, Margulis AR. Gastrointestinal tuberculosis. *Semin Roentgenol* 1979;14:283-94.
5. Bhansali SK. Abdominal tuberculosis. Experiences with 300 cases. *Am J Gastroenterol* 1977;67:324-37.
6. Mehta JB, Dutt A, Harvill L, Mathews KM. Epidemiology of extrapulmonary tuberculosis. A comparative analysis with pre-AIDS era. *Chest* 1991;99:1134-8.
7. Khan FY, AlAni A, Al-Rikabi A, Mizrahshi A, Osman Mel-M. Primary gastric fundus tuberculosis in immunocompetent patient: A case report and literature review. *Braz J Infect Dis* 2008;12:453-5.

8. Gupta V, Goel MM, Noushif M, Rai P, Gupta P, Chandra A. Primary gastric tuberculosis mimicking gastrointestinal stromal tumor. *Am J Gastroenterol* 2012;107:1269-70.
9. Gupta B, Mathew S, Bhalla S. Pyloric obstruction due to gastric tuberculosis – An endoscopic diagnosis. *Postgrad Med J* 1990;66:63-5.
10. Salpeter SR, Shapiro RM, Gasman JD. Gastric tuberculosis presenting as fever of unknown origin. *West J Med* 1991;155:412-3.
11. Padma V, Anand NN, Rajendran SM, Gurukul S. Primary tuberculosis of stomach. *J Indian Med Assoc* 2012;110:187-8.
12. Lim JU, Kim YH, Choi CW, Lee JH. Gastric tuberculosis presenting with a huge abdominal mass. *Singapore Med J* 2013;54:e244-6.
13. Padmanabhan H, Rothnie A, Singh P. An unusual case of gastric outlet obstruction caused by tuberculosis: Challenges in diagnosis and treatment. *BMJ Case Rep* 2013;2013. pii: Bcr2012008277.
14. Brody JM, Miller DK, Zeman RK, Klappenbach RS, Jaffe MH, Clark LR, *et al.* Gastric tuberculosis: A manifestation of acquired immunodeficiency syndrome. *Radiology* 1986;159:347-8.
15. Woudstra M, van Tilburg AJ, Tjen JS. Two young Somalians with gastric outlet obstruction as a first manifestation of gastroduodenal tuberculosis. *Eur J Gastroenterol Hepatol* 1997;9:393-5.
16. Ishii N, Furukawa K, Itoh T, Fujita Y. Primary gastric tuberculosis presenting as non-healing ulcer and mimicking Crohn's disease. *Intern Med* 2011;50:439-42.
17. Geo SK, Harikumar R, Varghese T, Rajan P, Aravindan KP. Isolated tuberculosis of gastric cardia presenting as perforation peritonitis. *Indian J Gastroenterol* 2005;24:227-8.

