

## Case Report

# Primary gastric tuberculosis mimicking a submucosal tumor

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## Abstract

Gastric tuberculosis is very rare and is usually associated with pulmonary tuberculosis. Endoscopically, it usually resembles peptic ulcer disease or malignancy. We present a 28-year-old female who had a submucosal lesion in the body of the stomach that mimicked a submucosal tumor. Endoscopic ultrasound guided fine needle aspiration yielded caseous material, and the cytological examination confirmed the diagnosis of tuberculosis.

## Key words

Endosonography, fine needle aspiration, peptic ulcer disease, tuberculosis

## Introduction

Gastric tuberculosis is very rare and is usually associated with pulmonary tuberculosis.<sup>[1,2]</sup> Its clinical features closely resembles that of peptic ulcer disease or malignancy with patients usually presenting with dyspepsia or gastric outlet obstruction.<sup>[3-5]</sup> A submucosal bulge with the normal overlying mucosa is usually due to submucosal tumors or vascular lesions and has been rarely reported with tuberculosis.<sup>[5-8]</sup> We present a 28-year-old female, who had gastric tuberculosis and the lesion on endoscopy mimicked a submucosal tumor.

## Case Report

A 28-year-old female presented with intermittent dysphagia primarily to solids for 3 months associated with generalized weakness and easy fatigability. She had significant loss of appetite and had lost 10 kg weight over 3 months. There was no history of fever and the patient

had a noncontributory physical examination. The routine hematological and biochemical investigations were also normal as was chest X-ray and ultrasound of the abdomen. The patient was taken up for upper gastrointestinal endoscopy and the gastroscope could be negotiated across the gastroesophageal junction (GEJ) with mild resistance and on retroversion, a submucosal lesion was noted in the body of the stomach just below the GEJ [Figure 1]. On probing with biopsy forceps, the lesion had a firm feel. Endoscopic ultrasound (EUS) revealed thickened gastric wall with loss of wall stratification and enlarged, well defined predominantly hypoechoic adjacent lymph nodes [Figures 2 and 3]. EUS guided fine needle aspiration was done from the thickened gastric wall, as well as the adjacent lymph node [Figure 4] and the cytological examination of the aspirate from both the sites revealed caseating granulomas with stain for acid-fast bacilli being positive. The serology for the human immune deficiency virus was negative, and the tuberculin test was positive. Contrast enhanced computed tomography of the chest and abdomen revealed thickened gastric wall below the GEJ with enlarged adjacent lymph nodes. The lung, mediastinum and ileocecal junction were normal. The patient was started on four drug weight based daily antitubercular therapy, and there has been marked improvement in her symptoms.

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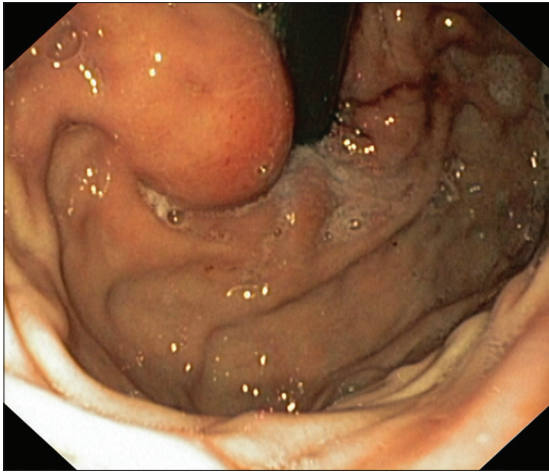
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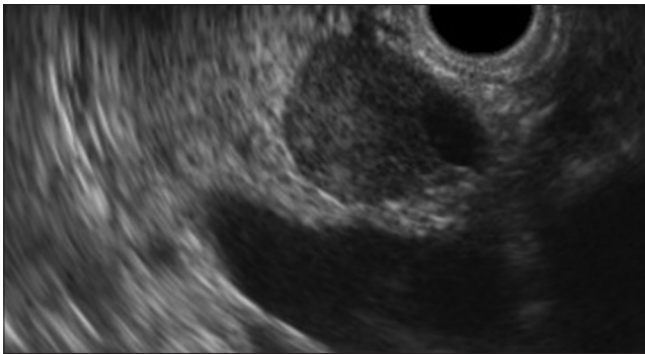
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**Figure 1:** Submucosal lesion in the fundus of stomach

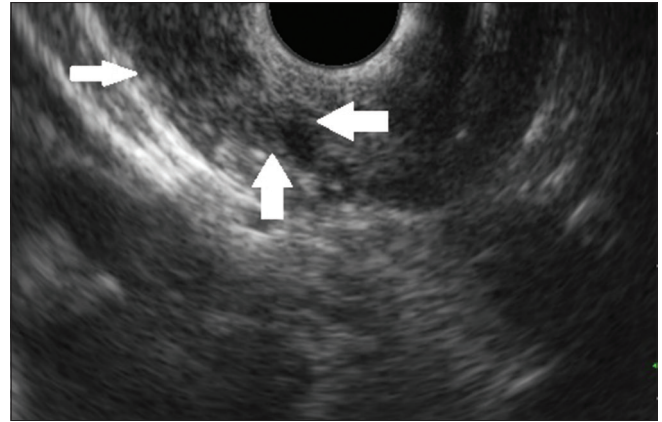


**Figure 3:** Endoscopic ultrasound: Enlarged perigastric lymph node

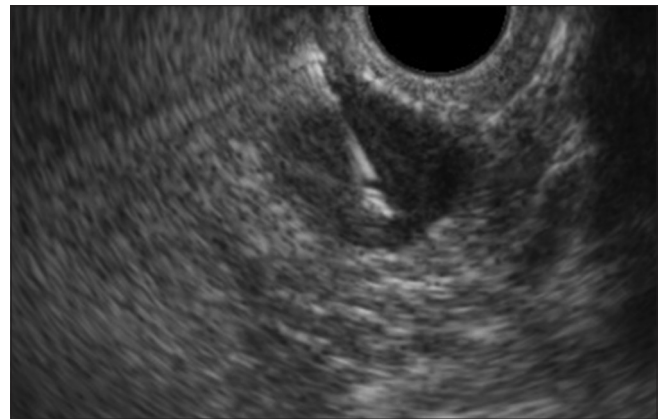
## Discussion

A subepithelial bulge with normal overlying mucosa in the region of the stomach may arise due to a number of causes including submucosal lesions (gastrointestinal stromal tumor, leiomyomas, neuroendocrine tumors, lipomas, granular cell tumors, duplication cysts, pancreatic rest) or from extrinsic lesions such as hepatic lesions, splenic lesions, pancreatic collections or lesions, or gall bladder.<sup>[8,9]</sup> A submucosal bulge with normal overlying mucosa has been rarely reported with tuberculosis.<sup>[6,7]</sup>

Isolated gastric tuberculosis is very rare with antrum being the most common site of involvement, and its endoscopic appearances are variable with both ulcers and polypoidal lesions being described.<sup>[10]</sup> The rarity of gastric involvement is due to the bactericidal nature of the gastric acid, rapid emptying of the stomach, local immunity of gastric wall and the paucity of lymphoid tissue in the gastric wall.<sup>[1,11]</sup> The most common route of infection to the stomach is spread through the adjacent celiac lymph nodes with other routes of gastric infection being a direct mucosal invasion, hematogenous spread, or extension from adjacent involved organs.<sup>[7,12]</sup> Gastric tuberculosis presenting as a submucosal lesion and mimicking a submucosal tumor has been rarely reported and usually



**Figure 2:** Endoscopic ultrasound: Thickened gastric wall (arrows)



**Figure 4:** Endoscopic ultrasound guided fine needle aspiration from the perigastric lymph node

diagnosed after surgery.<sup>[7]</sup> EUS is an excellent modality for evaluation of these submucosal lesions as it can determine nature and the origin of the lesion and also provide cytological material for diagnosis as was in the index case.<sup>[13]</sup>

## Conclusion

Gastric tuberculosis can rarely present as a submucosal lesion and EUS is an excellent modality for characterizing the lesion, as well as obtaining a sample for cytological confirmation of the diagnosis.

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## Conflicts of interest

There are no conflicts of interest.

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