

**Abdominal Tuberculosis Causing Gastric Outlet Obstruction: A Case Report**Akanbi Olusola Olateju<sup>1\*</sup>, Agodirin Olayide Sulaiman<sup>2</sup>, Idris Olawale Lateef<sup>3</sup>, Olanipekun Olusegun Olaolu<sup>1</sup><sup>1</sup>Ladoke Akintola University of Technology Teaching Hospital Ogbomoso, Oyo State, Nigeria<sup>2</sup>University of Ilorin and University of Ilorin Teaching Hospital Ilorin, Kwara State, Nigeria<sup>3</sup>Ladoke Akintola University of Technology Teaching Hospital Osogbo, Osun State, Nigeria**\*Corresponding Author:****Name:** Akanbi Olusola Olateju**Email:** [drsolaakanbi@yahoo.com](mailto:drsolaakanbi@yahoo.com)

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**Abstract:** We report a rare case of gastric outlet obstruction from gastroduodenal tuberculosis. She was a 17 year old Nigerian Fulani girl with persistent prolonged vomiting and weight loss of eight months duration. A provisional diagnosis of gastric outlet obstruction secondary to chronic peptic ulceration was entertained. Preoperative upper gastrointestinal barium study and endoscopy were in keeping with gastric outlet obstruction. The histology of the multiple endoscopic gastric biopsies suggested chronic gastritis without demonstration of *Helicobacter pylori*. Patient was optimized for surgery. At surgery the stomach was markedly dilated. Striking findings were large supra and subpyloric lymph nodes. She had biopsy of the lymph nodes and gastrojejunostomy was done to bypass the obstruction. The histology report of the nodal biopsy suggested tuberculosis. She was commenced on anti-tuberculous therapy. She has been follow-up for more than one year. All symptoms have since disappeared and she has gained weight.**Keywords:** Gastric outlet obstruction, Gastroduodenal tuberculosis, Subpyloric node, Tuberculous lymphadenitis

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**INTRODUCTION**

Tuberculosis is a major global health burden, it was declared by world health organization as global health emergency in 1993. In Nigeria tuberculosis is endemic and Nigeria ranks 5<sup>th</sup> among the 22 high burden tuberculous countries in the world [1].

Tuberculosis is a chronic granulomatous infectious disease caused by mycobacterium organisms; it could be pulmonary or extra pulmonary. The later may affect any other organ or tissue in the body. When the extrapulmonary site, is the gastrointestinal tract or abdominal cavity it is referred to as abdominal tuberculosis. Abdominal tuberculosis may be secondary to pulmonary tuberculosis or may ensue from direct ingestion of the organism particularly in unpasteurized milk [2].

Gastrointestinal tuberculosis usually involves the ileocecal region [3]. While primary case of gastroduodenal form of abdominal tuberculosis is rare [4], it is often secondary to pulmonary tuberculosis. Gastrointestinal tuberculosis commonly affects the small intestine and the caecum. Even though any intra-abdominal organ may be affected, gastroduodenal tuberculosis is particularly rare and rarer still is development of gastric outlet obstruction (GOO) from abdominal tuberculosis. It occurs from gastroduodenal fibrosis or and external compression of the antropyloric region of the stomach or duodenum. Because the presentation is rare and the symptoms are nonspecific, it

is commonly misdiagnosed as gastric malignancy or chronic cicatrizing peptic ulcer disease until after abdominal exploration.

This is a report of the typical uncommon presentation of abdominal tuberculosis involving the gastro duodenum erroneously diagnosed as gastric outlet obstruction secondary to chronic peptic ulcer disease. We highlight the difficulties of preoperative diagnosis.

**CASE REPORT**

Our patient was a 17 yr old fulani girl with 8 months history of persistent and progressively worsening copious vomiting of stale food. The symptom was worse with ingestion of solid foods and there was progressive weight loss. Her previously regular menstrual cycle had become irregular. On examination at first contact, she was wasted (body mass index of 16.64), she was pale, dehydrated and had bilateral pitting pedal oedema up to mid-leg. Examination of the head and neck revealed thin fluffy hair which was removed with ease and prominent zygomatic arches. The abdomen was scaphoid with epigastric fullness. There were no palpable abdominal masses and succussion splash was demonstrated. Examination of other regions and systems were unremarkable.

Based on history and examination findings a provisional diagnosis of Gastric outlet obstruction

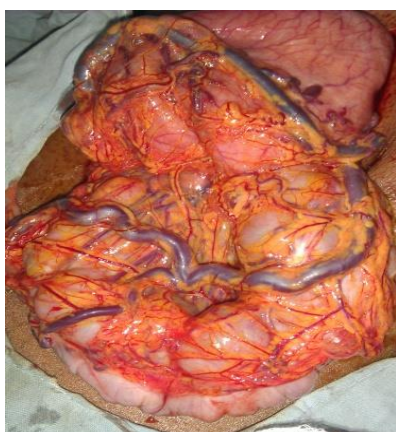
secondary to duodenal ulcer was made. Upper gastrointestinal barium study showed dilated stomach with delayed emptying Fig.1.



**Fig. 1: Barium meal and follow through of the patient**

Upper gastrointestinal endoscopy suggested gastric outlet obstruction with inability to pass the scope into the duodenum. The histology of the multiple gastric mucosa biopsies taken at endoscopy suggested chronic granulomatous gastritis. The serum electrolytes and urea were deranged. She was also hypoalbuminaemic. The chest X-ray features were unremarkable.

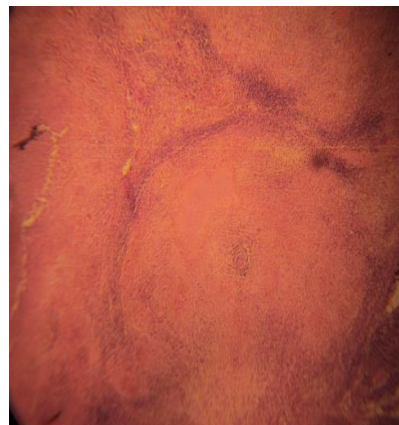
Following correction of the fluid and electrolyte derangement and appropriate nutritional supplementation, she had an exploratory laparotomy. The intraoperative findings were those of dilated stomach and multiple supra and subpyloric and mesenteric lymph nodes. The gastroepiploic veins were markedly engorged (Fig. 2).



**Fig. 2: Showing the stomach and engorge gastroepiploic vessels**

The lymph nodes were biopsied and retro-colic gastrojejunostomy was done to bypass the gastric outlet obstruction. The post operative period was uneventful. She was subsequently commenced on anti-tuberculous

regimen following a histological diagnosis of tuberculous lymphadenitis (Fig. 3).



**Fig. 3: The histology of the sub pyloric lymph node**

She was followed-up for more than one year. All her symptoms have disappeared, she has gained weight and she is doing well. A repeat endoscopy still revealed antropylic stenosis.

## DISCUSSION

Tuberculosis is an infectious disease caused by mycobacteria organisms. Like most other infectious diseases, it is more common in the developing countries. Tuberculosis occurs as either pulmonary or extrapulmonary disease.

Pulmonary tuberculosis affects the lungs with or without secondary involvement of other organs or tissues. Primary extrapulmonary tuberculosis can also occur without initial affectation of the lungs.

The extra pulmonary tuberculosis commonly affects the bone and the abdominal organs. The most common site of the abdominal tuberculosis is the ileocecal region [3]. This may be due to the presence of Peyer's patches, physiologic stasis and the absorptive function of this region of the gastrointestinal tract. When ileocecal tuberculosis occurs, the tuberculous complexes consist of the Peyer patches, the draining lymphatics and the regional lymph nodes.

Our patient had abdominal tuberculosis involving the stomach and duodenum. This is not a common site for establishment of gastrointestinal tuberculosis [3]. The rarity of gastroduodenal site for tuberculous disease is explained by the lack of mucosa lymphoid tissue in the stomach and the protective effect of the gastric acid production. Gastric outlet obstruction complicating gastroduodenal tuberculosis is usually unsuspected clinically because it mimics either peptic ulcer disease or gastric malignancy [5] thus leading to diagnostic dilemma.

In Nigeria the incidence of abdominal tuberculosis is particularly more common among the

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Fulani/nomadic tribe because of the practice of ingestion of unpasteurized milk [2], including direct suckling from cow teats by children of this tribe [6]. Our patient was from this tribe. A provisional diagnosis of chronic stenosing duodenal ulcer was entertained because malignancy is rare in the young.

The clinical, radiologic and endoscopy findings of gastroduodenal tuberculosis are usually nonspecific as has been demonstrated again in our patient. The abdominal finding only suggested presence of obstruction of the gastric outflow. The barium study showed dilatation of the stomach with delayed outflow, confirming the clinical suspicion and the endoscopic finding also suggested the same. These nonspecific investigation findings only re-affirm the clinical suspicion of gastric outlet obstruction; they rarely give additional information that may suggest the correct diagnosis. Other investigations that may be helpful in reaching a preoperative diagnosis include abdominal computed tomography scan and laparoscopic evaluation, but they are not readily available or affordable to our patient and are most times not cost effective giving the limited resources available in developing countries.

A pointer to the diagnosis would have been the endoscopic biopsy result, however, the report of chronic granulomatous inflammatory was not specific enough because other granulomatous conditions may also involve the stomach [7].

Making a preoperative diagnosis of gastroduodenal tuberculosis is almost always difficult especially in the absence of concurrent pulmonary features. It is an exception rather than the norm. The correct diagnosis is usually made only after exploration and histological demonstration of caseating necrosis and presence of langerhans giant cell in biopsied regional lymph node. The presence of non caseating granulomatous lymph node may suggest other chronic diseases such as sarcoidosis, syphilis, mycotic lesion, and exposure to beryllium, silicate or reserpine [8].

The traditional management of uncomplicated tuberculosis is with the use of anti-tuberculosis drugs, non complicated gastroduodenal tuberculosis is not an exception to this modality of treatment however, those with established complication such as obstruction as seen in our case may require surgical intervention [9]. An alternative would have been a minimal invasive approach, to combine endoscopic balloon dilatation or stent placement with medical treatments in some patients [10]. Performing an open operative treatment for our patient was inevitable because the diagnosis of gastrointestinal tuberculosis was not entertained and there was no facility of endoscopic therapy.

The outcome of management is usually good, upon commencement of the appropriate chemotherapy the symptoms abate and the gastric outlet may become patent. Demonstrating improvement in the patient is not difficult, it is usually obvious clinically, and our patient demonstrated a resolution of the malnutrition. Patency of the gastric outlet can be demonstrated by upper gastrointestinal barium study or follow-up endoscopy.

## CONCLUSION

Gastro duodenal tuberculosis is a rare entity and GOO from it is even rarer. It usually presents with nonspecific clinical features. The regular upper gastrointestinal investigations also yield nonspecific findings. A high index of suspicion especially when patient is from tuberculous endemic areas is required to reduce the occurrence of delayed or missed diagnosis.

## REFERENCES

1. World Health Organization Regional office for African. AIDS, TB and Malaria. 2015. Available from <http://www.afro.who.int/en/nigeria/who-country-office-nigeria.html>
2. Yohanna CA, Ijabone IF, Cadmus SIB; Prevalence of bovine tuberculosis using comparative intradermal tuberculin test (SCITT) in Fulani herds in Nasarawa State, North Central Nigeria. *Sokoto Journal of Veterinary Sciences*, 2008; 7(2): 46-48.
3. Abrams JS, Holden WD; Tuberculosis of Gastrointestinal tract. *Arch Surg.*, 1964; (89): 283-293.
4. Subei I, AttarB, Schmitt G, Levendoglu H; Primary gastric tuberculosis: A case report and literature review. *Am J Gastroenterol.*, 1987; (82):769-772.
5. Okoro EO, Komolafe OF; Gastric tuberculosis: unusual presentation in two patients. *Clin Radiol.*, 1999; 54(4):257-259.
6. Picture of a baby sucking cow's bosom for milk - Nairaland / General – Nairaland. Available from <http://www.nairaland.com/1068777/picture-baby-sucking-cows-bosom.html>
7. Gupta B, Mathew S, Bhalla S; Pyloric obstruction due to gastric tuberculosis: An endoscopic diagnosis. *Postgrad Med J.*, 1990; 66(771): 62-65.
8. Petroianni A, Mugnaini L, Laurendi G, Giousue S, Schinina V, Bibbolino C *et al.*; Abdominal tuberculosis mimicking Crohn's disease a difficult diagnosis. Report of a case. *Panminerva Med.*, 2002; 44(2): 155-158.
9. Anand BS, Nanda R, Sachdev GK; Response of tuberculous stricture to antituberculous treatment. *Gut*, 1988; 29 (1): 62-69.
10. Vij JC, Ramesh GN, Choudhary V, Malhotra V; Endoscopic balloon dilatation of tuberculous duodenal stricture. *Gastro intest Endosc*, 1992; 38(4): 510-511.