

CASE REPORT

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A rare case of upper gastrointestinal hemorrhage due to tuberculous lymphadenitis fistulized in the duodenum

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Abstract

Introduction Abdominal tuberculosis is less prevalent than pulmonary tuberculosis. Tuberculous lymphadenitis accounts for fewer than 5% of abdominal cases. An unusual complication is the fistulization of a tuberculous lymph node into the digestive tract, with an even rarer association with upper gastrointestinal bleeding.

Case Report A 63-year-old male with a history of rectal adenocarcinoma surgery presented with severe gastrointestinal bleeding that required multiple transfusions. Endoscopic attempts failed to locate the bleeding source, but CT angiogram revealed a hemorrhagic necrotic mesenteric lymph node with a fistula to the second part of the duodenum. The patient underwent surgery, which involved resecting the lymph nodes and disconnecting the fistula. Histopathological findings confirmed tuberculous mesenteric lymphadenitis, and the patient was subsequently started on HRZE therapy. Six months postoperatively, there was no recurrence of bleeding.

Discussion Gastroduodenal tuberculosis is infrequent due to factors such as the high acidity of the gastric environment and limited lymphoid tissue. Symptoms may mimic other abdominal conditions, making diagnosis challenging. Common complications include gastric outlet obstruction and perforation, while gastrointestinal bleeding is rare. This case of hemorrhagic tuberculous lymphadenitis with fistulization highlights the need for a high index of suspicion and the role of imaging in diagnosing uncommon bleeding sources. While anti-tuberculosis therapy remains the primary treatment, surgery is warranted in cases involving refractory bleeding or fistulization.

Conclusion This case emphasizes the importance of a multidisciplinary approach to abdominal tuberculosis with atypical presentations. Awareness of rare complications is essential for prompt diagnosis and management.

Keywords Fistulization, Hemorrhage, Lymphadenitis, Tuberculosis

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Introduction

Abdominal tuberculosis, although less common than pulmonary tuberculosis, represents a significant manifestation of the disease. Among the abdominal forms, tuberculous lymphadenitis is infrequent (<5%) [1, 2] and can present with various clinical manifestations. The fistulization of a tuberculous lymph node into the digestive tract is an unusual complication, and its association with upper gastrointestinal bleeding is even rarer, with only a few documented cases in the medical literature [3–5].

Case report

We report the case of a 63-year-old man, with a history of hypertension, who underwent an anterior resection with colorectal anastomosis for upper rectum adenocarcinoma and cholecystectomy for cholelithiasis. The postoperative course was uneventful, and the pathology report showed a well-differentiated adenocarcinoma, pT1N0, with no indication for adjuvant chemotherapy.

In September 2022, the patient was admitted to the surgery department for gastrointestinal bleeding in the form of profuse melena, requiring repeated transfusions. Upper gastrointestinal endoscopy was performed twice, revealing gastritis but not explaining the bleeding. Up until this point, the patient has received 12 blood units. A third endoscopy revealed a hemorrhagic crater beneath the papilla. It was treated with clips and argon plasma twice, without success and the patient was transfused with an additional 8 units of blood to maintain hemoglobin level at 8 g/dL. The colonoscopy was unremarkable. A CT angiogram, conducted to rule out an aneurysm, identified several mesenteric lymph nodes with necrotic centers. The largest lymph node, measuring 5 cm in diameter, was retropancreatic and showed active

extravasation of contrast indicative of bleeding. There appeared to be a fistula originating from this lymph node to the second part of the duodenum (Fig. 1).

Two diagnoses were considered: a metachronous lymph node metastasis of rectal adenocarcinoma, which was unlikely due to the location, or a complicated lymph node tuberculosis based on the CT scan appearance (necrotic center), which was even less likely. Endoscopic ultrasound was unavailable for biopsy. Given the necessity for a massive blood transfusion and the diagnostic and therapeutic emergency, the indication for surgery was retained.

The patient underwent surgery, via a right subcostal incision. Intraoperatively, a conglomerate of lymph nodes was found behind the duodenum, which was resected. An adenopathy fistulized to the second part of the duodenum was identified, necessitating duodenotomy and disconnection of the fistula, located beneath the papilla (Figs. 2 and 3). The procedure concluded with duodenal suturing, pyloric exclusion, bilateral vagotomy, and trans- and sub-mesocolic gastrojejunostomy. The postoperative course was uneventful. There was no recurring hemorrhage.

Histopathological examination showed the presence of a granulomatous reaction in the lymphatic tissue, consisting of epithelioid cells and multinucleated giant cells arranged around a granular eosinophilic substance suggestive of caseous necrosis confirming the diagnosis of tuberculous mesenteric lymphadenitis (Fig. 4). The patient was initiated on HRZE therapy (Isoniazid, Rifampin, Pyrazinamide, and Ethambutol) and subsequently referred to the infectious disease department for further management. There was no recurrent hemorrhage at the 6-month follow-up.



Fig. 1 A large retropancreatic lymph node (red arrow), measuring 5 cm in diameter, showed arterial enhancement indicative of hemorrhage. There appeared to be a fistula originating from this lymph node to the second part of the duodenum (yellow arrow)



Fig. 2 A conglomerate of lymph nodes found behind the duodenum, which was resected

Discussion

Abdominal tuberculous lymphadenitis typically occurs when the infection spreads from lymph nodes that drain the gastrointestinal tract [6]. The most commonly affected lymph nodes are those in the mesentery [6]. This type of tuberculosis can often present with clinical symptoms that resemble other abdominal conditions, making diagnosis a challenging task. Tuberculosis involving the gastroduodenal region is infrequent due to factors such as the high acidity in this environment, rapid transit of contents leading to minimal contact times, and the limited presence of lymphoid tissue in the duodenum compared to other parts of the gastrointestinal tract [7].

Clinical manifestations of gastroduodenal tuberculosis can vary and may include symptoms like fever, weight loss, and night sweats; however, these were not observed in our patient. Diagnosis is frequently prompted by complications, with the most common being gastric outlet obstruction (GOO), gastrointestinal bleeding, and perforation. Among these, duodenal obstruction is the most prevalent presentation, accounting for 12–60% of cases [8]. This obstruction can result from mucosal involvement either in the bulbar or post-bulbar region or from external compression by lymph node involvement around

the stomach or duodenum. Perforation is a relatively rare complication that can mimic the presentation of a peptic ulcer perforation. In many cases, diagnosis is only confirmed after surgical intervention [9].

The hemorrhage due to abdominal tuberculosis can take various forms. It can be due to the erosion of peri gastroduodenal vessels such as hemorrhagic ulcers [10], or to the fistulization of a lymph node to the aorta and the digestive tract [4, 11]. In the case of our patient, the bleeding was within the affected lymph node with fistulization into the duodenum. To our knowledge, only 2 cases have been described in the literature [3, 5].

Digestive endoscopy plays a pivotal role in assessing the underlying cause of bleeding and determining appropriate treatment. However, in some cases, as in our patient's case, endoscopy might fail to pinpoint the underlying cause of the bleeding. AngioCT can be highly valuable in identifying less common causes of bleeding, such as vascular aneurysms or, exceptionally, hemorrhagic lymph nodes fistulizing into the digestive tract [10].

The treatment of abdominal tuberculous lymphadenitis entails a dual approach combining anti-tuberculosis antibiotic therapy and, if necessary, surgical intervention. Antibiotic therapy, typically involving

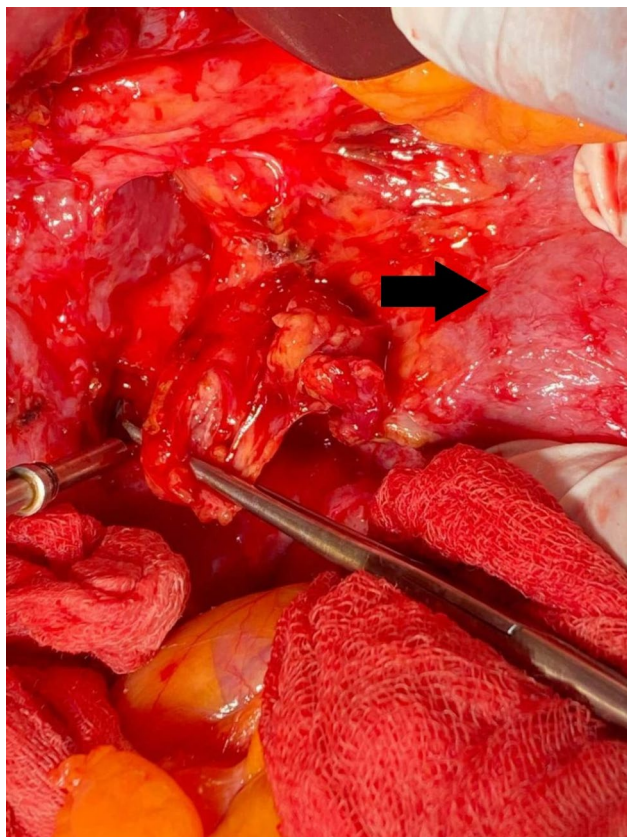


Fig. 3 Adenopathy fistulized to the second part of the duodenum (black arrow)

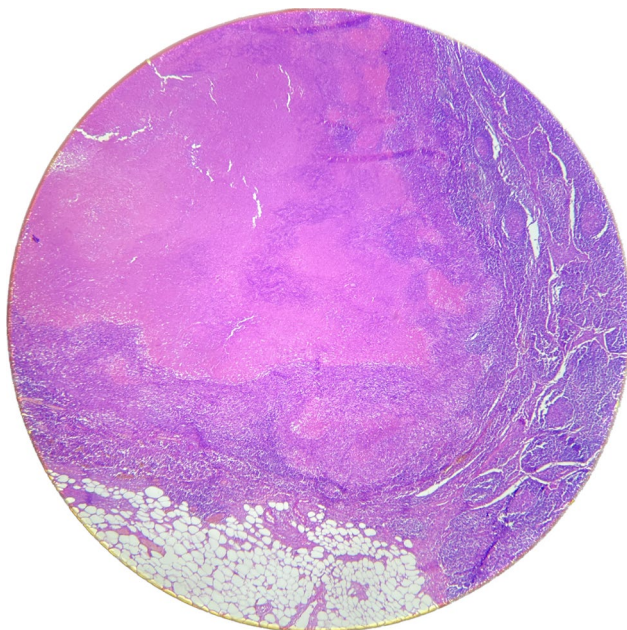


Fig. 4 Histopathological examination showed the presence of a granulomatous reaction in the lymphatic tissue, consisting of epithelioid cells and multinucleated giant cells arranged around a granular eosinophilic substance suggestive of caseous necrosis

multiple anti-tuberculosis drugs, aims to eradicate the infection [12]. In most cases, antibiotic treatment alone can effectively manage the disease and its complications without surgery. For instance, the case reported by Garcia et al. described a patient with lymphadenitis fistulizing into the gastric wall causing digestive bleeding that was successfully managed with medical therapy [3]. Another case described by Kitmacher et al. presented digestive bleeding due to the fistulization of a mediastinal tuberculous lymph node into the esophagus, and medical treatment proved effective without requiring surgery [4].

Surgery might be considered in complicated cases, such as the presence of abscesses, extrinsic compression (gastric outlet stenosis or intestinal obstruction with failed medical and endoscopic treatment), or fistulization into the digestive tract accompanied by refractory bleeding, as seen in our patient [1]. Arterial embolization was not considered because there was no evident artery directly incriminated. In cases of hemorrhagic fistulization, excision of the tuberculous lymph node and fistula disconnection seem necessary to halt bleeding and prevent future complications.

Conclusion

Abdominal tuberculous lymphadenitis is a rare yet significant manifestation of the disease. The fistulization of a tuberculous lymph node into the digestive tract, leading to upper gastrointestinal bleeding, represents an exceptional complication. This case underscores the importance of a multidisciplinary approach in establishing an accurate diagnosis and determining the best management strategy, including anti-tuberculosis antibiotic therapy and surgery if necessary. Increased awareness of such rare presentations is essential to ensure optimal diagnoses and treatments in such cases.

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Author contributions

Souhaib Atri: conceptualization, data curation, redaction, project managerMahdi Hammami: conceptualization, data curation, redaction, project managerAnis Belhadj: conceptualization, redactionFaouzi Chebbi: resources, visualizationYoussef Chaker: Supervision, Validation, visualizationMontassar Kacem: Supervision, validation, visualization.

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Data availability

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Declarations

Ethics approval and consent to participate

Not applicable. Our institutions requires no ethical approval for case reports.

Consent for publication

Written informed consent was obtained from the patients for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Competing interests

The authors declare no competing interests.

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