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Massive gastrointestinal bleeding after chemotherapy for gastric lymphoma



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ABSTRACT

INTRODUCTION: Gastrosplenic fistula (GSF) is a rare condition almost always associated with lymphoma, with gastric and splenic involvement.

CASE REPORT: We report a 52 year old male with gastric lymphoma admitted to the emergency department with hematemesis. The first chemotherapy cycle had been completed four weeks before. Oesophagoduodenoscopy showed a pulsatile ulcerated lesion. Surgical hemostasis was performed. Four days after surgery, the patient initiated sudden and massive upper gastrointestinal bleeding with hemodynamic compromise. A gastrosplenic fistula was recognized during emergency laparotomy and an *en bloc* total gastrectomy and splenopancreatectomy resection was performed, with massive blood transfusion. Patient was discharged 13 days after the second surgery.

DISCUSSION: Gastrosplenic fistula is a rare condition, previously described associated with gastric lymphoma at presentation or after treatment. A prompt recognition of the underlying pathology could avoid a second surgery.

CONCLUSION: A systematic and interdisciplinary approach is the key for success in rare challenging emergencies. Infrequent etiologies must always be considered as they need specific therapeutic approaches that defy paradigms.

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1. Introduction

Gastrosplenic fistula (GSF) is a recognized complication of gastric or splenic lymphoma [1–8]. Several times described as a rare event, there are several cases previously reported of GSF secondary to lymphoma in the literature, although only few cases clearly due to primary gastric lymphoma (Pubmed: search terms *gastrosplenic fistula*, no restrictions, 02 October 2015). GSF may cause the first sign of the underlying disease or may occur after chemotherapy. It can be incidentally diagnosed and/or may present as a massive upper GI bleeding needing life-saving emergency surgery [1–8].

With this case report, our aim is to highlight the importance of subtle clinical aspects that could lead to the diagnosis of life-threatening conditions in patients with routine clinical presentation

2. Presentation of case

52 year old male, admitted to the emergency department (ED) with dizziness and upper gastrointestinal bleeding. He had a recent diagnosis of gastric B cell lymphoma, having complete chemotherapy (Cyclophosphamide, Hydroxycarbamide, Oncovin and Prednisolone—CHOP) four weeks prior to ED admission. The patient was hemodynamically stable. Oesophagoduodenoscopy showed a pulsatile whitish ulcerated lesion between body and gastric fundus in the greater curvature—Fig. 1. Given endoscopic therapy was unsuccessful, with patient hemodynamic compromise under blood transfusion – 2 red cell pack (RCP) and fluid resuscitation – an emergency laparotomy was performed. Gastrotomy with ulcer bed biopsy and hemostasis restored hemodynamic stability. The immediate post-operative was uneventful and multiorgan function was restored with intensive medicine support.

At the fourth day after surgery, the patient presented with sudden onset of hematemesis and melena, with confusion and hemodynamic deterioration. Fluid resuscitation and blood transfusion was immediately started and emergency surgery was performed. Re-laparotomy showed gastric distension filled with blood. After gastrotomy, an active bleeding 1 cm ulcer at the fundus, with fistulization to the splenic vein, was found. An *en bloc* Roux-Y total gastrectomy with splenectomy and distal pancreatectomy

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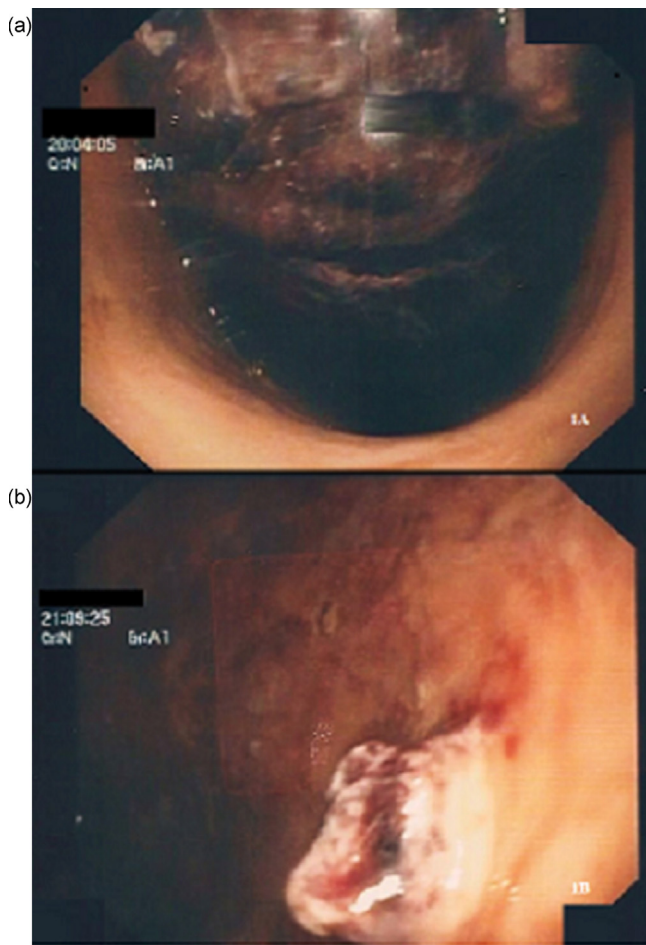


Fig. 1. Oesophagogastrroduodenoscopy at admission, showing a clot (a) covering a pulsatile whitish ulcerated lesion (b).

was performed – Fig. 2 – and the patient was transferred to the Intensive Care Unit (ICU) for intensive organ support and massive blood transfusion—24 RCP, 7 cryoprecipitate, 3 fresh frozen plasma and 1 platelet pool.

Patient was discharged after three days in the ICU and ten days in the surgical ward. Before discharge, an arteriography was performed for splenic artery embolization – Fig. 3(a) and (b). The reason for this procedure was that, if there was splenic artery involvement by lymphoma, new chemotherapy cycles could lead to tumor necrosis and splenic artery hemorrhage. This was decided in a multidisciplinary meeting.



Fig. 2. Specimen of *en bloc* total gastrectomy with splenopancreatectomy resection.

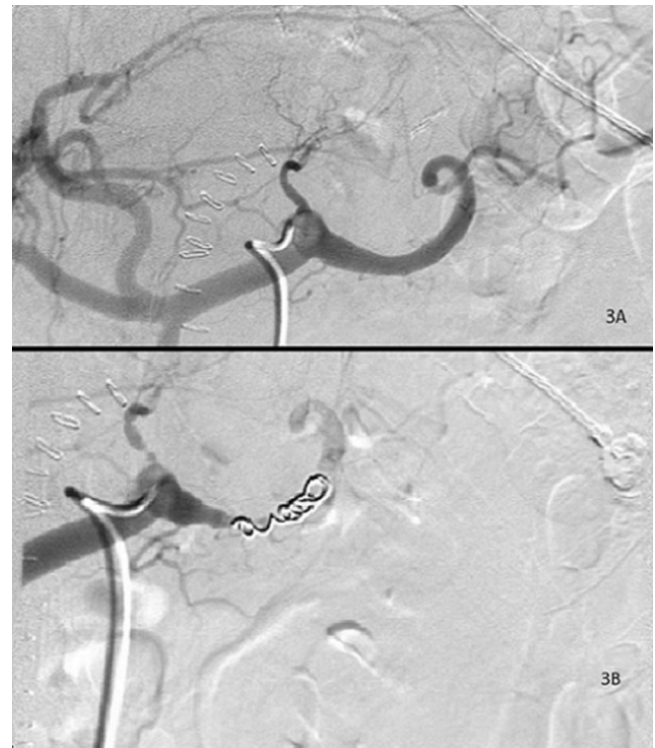


Fig. 3. (a) celiac axis arteriography (b) splenic artery embolization.

Surgical pathology analysis showed a 6 cm gastric fundus ulcer, with perigastric adipose tissue attached to the splenic capsule, with fibrinopurulent tissue. Histological and immunohistochemical analysis showed a high grade non-Hodgkin transmural lymphoma, transmural inflammatory infiltrate with gastric wall fissures, and 10 lymph nodes with no neoplasia – Fig. 4(a) and (b).

Three months after surgery patient was lost to follow up since he started treatment in another hospital.

3. Discussion

According to European Society for Medical Oncology (ESMO) [9] and National Comprehensive Cancer Network (NCCN) [10] guidelines, gastric lymphoma therapy involves *H. pylori* eradication and radiotherapy if the disease persists. If symptomatic advanced disease, then chemotherapy is recommended (usually RCHOP—CHOP plus Rituximab – or RCVP – Rituximab, Cyclophosphamide, Vincristine and Prednisolone). Surgery is the option when there is tumour or treatment associated complications, such as perforation or haemorrhage.

This case report shows demographic, clinical and histopathological findings similar to those described in the literature [1–8]: a 50 year old male with B cell gastric lymphoma. However, massive upper GI bleeding is usually a disease first presentation or treatment associated complication during chemotherapy (and not 4 weeks after chemotherapy).

Surgical decision was in accordance with literature [1–4,6,8]. However, it seemed to be the opposite of damage control surgery, where minimal procedures should be preferred to stop haemorrhage and peritoneal contamination with immediate intensive care support. In this case, as in others reported [1–4,6,8], major surgery with *en bloc* gastric, splenic and distal pancreatic resection was necessary to stop haemorrhage and peritoneal contamination.

Splenic artery embolization was performed to avoid the risk of re-bleeding during future chemotherapy cycles, considering that the remaining splenic vessels could be involved by the lymphoma. It

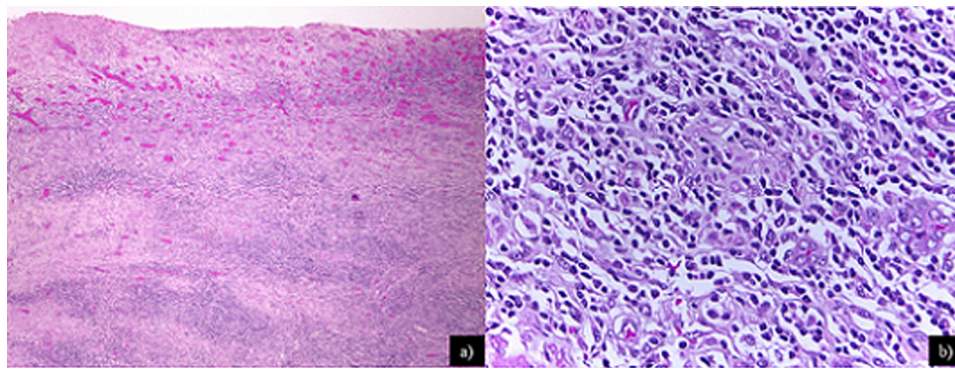


Fig. 4. (a) Gastric wall extensively ulcerated with transmural inflammatory infiltrate. (b) Large atypical lymphoid cells interspersed among inflammatory cells, consistent with residual high-grade non-Hodgkin lymphoma.

was a multidisciplinary meeting decision, although not previously reported.

Although peptic ulcer disease may lead to major gastric haemorrhage, the proximal gastric corpus is not the usual topography for this pathology. The surgical report also describes a communication between splenic vein and the ulcer. We consider that it is more reasonable to explain the whole physiopathology and clinical process as a major bleeding secondary to a gastro-splenic vein fistula, than an atypical peptic ulcer with haemorrhage involving splenic vessels in a patient with gastric lymphoma.

Although not clearly reported previously in the literature, the time sequence of the events suggests that tumour lysis after chemotherapy may be the leading event for haemorrhage.

Critical retrospective analysis of the first procedure suggests that an initially aggressive surgical approach would have been more efficient and useful for the permanent treatment of this patient. However, a standard approach with haemostatic ulcer suture and biopsy seemed at the time to be adequate and a delayed definitive surgical treatment could be performed as an elective procedure. Knowing the patient's recent past medical history of chemotherapy for gastric lymphoma, a high probability of haemorrhage recurrence led to a large period of haemodynamic continuous monitoring for prompt emergency therapy.

4. Conclusion

A systematic approach, a critical attitude, and an efficient interdisciplinary cooperation, are the key for success in rare difficult clinical situations.

Conflict of interest

None.

Ethical approval

Written Informed Consent was given, according to the HFF EPE—Mod.016/T.DC/V6/2014 approved by the Institutional Review Board.

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