



Gastrosplenic Fistula following Chemotherapy for Lymphoma

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Abstract

Gastrosplenic fistula resulting from erosion of a primary splenic lymphoma is a very rare cause of massive upper gastrointestinal hemorrhage as compared to benign peptic ulcer disease, gastric Crohn's disease, gastric adenocarcinoma, and primary gastric and splenic lymphomas. This hemorrhage can be successfully managed by splenic artery embolization, followed by splenectomy and gastric resection. A 50-year-old patient developed a gastrosplenic fistula during a course

of chemotherapy for differentiated histiocytic lymphoma. The fistula was demonstrated by CT scan with oral contrast. The fistula was followed endoscopically and noted to have closed spontaneously with confirmed closure at laparotomy. The clinical management of this complication is discussed, and the literature pertaining to this rare condition is reviewed.

Keywords

Gastrosplenic fistula, lymphoma, chemotherapy.

Introduction

Gastrosplenic fistulas are extremely rare. Only 15 cases were reported⁽¹⁻⁴⁾. Malignancy is the primary cause reported in 50 per cent of the patients, followed by perforated peptic ulcer (40%). Two cases of malignancy developed fistulas following chemotherapy⁽⁵⁾. This case had histiocytic non-Hodgkin's lymphoma and the fistula he developed was considered as a post-chemotherapy complication.

Case Report

A 50-year-old male who was completely healthy until 6 months prior to admission, presented with increasing fatigue associated with a weight loss of 20 kilogram. On admission he was complaining of epigastric cramps, which progressively increased in intensity over the last 2-month period. His pain started immediately postprandially with progressive increase in severity preventing him from lying on his left side. Pain was associated with flatulence, nausea

but no vomiting. He was a heavy smoker (Two Packets/day). One aunt was treated for lymphoma and still alive. Physical examination revealed a cachectic middle-aged male with epigastric fullness and tenderness. He also had splenomegaly and a 2-cm mobile left axillary lymph node. Laboratory results showed a total white blood count of 11,600, 78 per cent segmented neutrophils, 10 per cent bands, and only 5 per cent lymphocytes otherwise normal. Initial CT scan revealed circumferential irregular gastric wall thickening (Fig.1) Esophagogastroduodenoscopy revealed a large gastric irregular ulcer in the fundus of the stomach. Biopsy confirmed the presence of lymphoma, of a poorly differentiated large B-cell type. Left axillary lymph node biopsy revealed malignant lymphoma of the same type. Bone marrow aspirate was negative. The diagnosis of stage IV malignant lymphoma was made based on lymphomatous ulcer with splenic encroachment and a coexistent left axillary lymph node. The patient was treated with six cycles of CHOP chemotherapy regimen in the form of Cyclophosphamide, 750 mg/m² I.V. for 1 day; Doxorubicin, 50 mg/m² IV for 1 day; Vincristine, 1.4 mg/

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m² for 1 day; and Prednisone, 100 mg/day. Approximately 1 month later, a follow-up endoscopy and a subsequent CT scan revealed moderate splenomegaly with oral contrast within the spleen giving air-contrast fluid level denoting

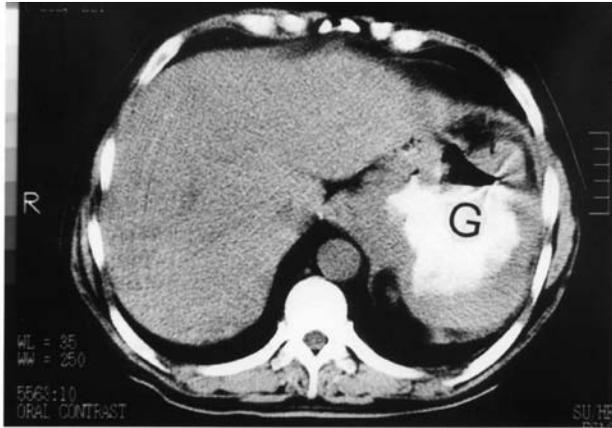


Fig. 1: Initial upper abdominal CT scan with oral contrast material showing circumferential irregular gastric (G) wall thickening involving the gastric fundus and greater curvature with loss of fat plane with the compressed spleen.

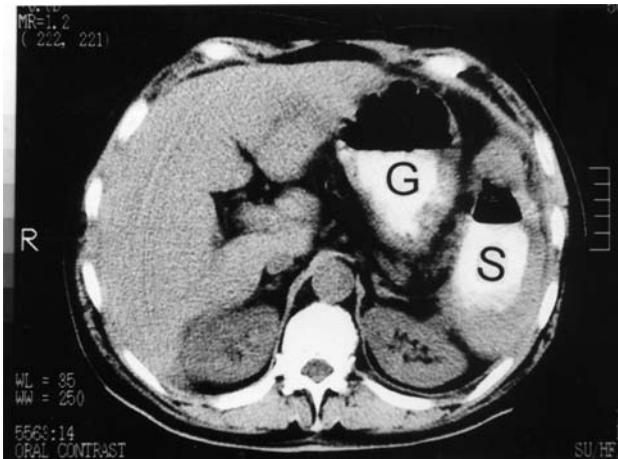


Fig. 2: Follow-up abdominal CT scan with oral contrast demonstrates contrast material in the stomach (G) and within spleen (S) giving air-contrast fluid level due to fistulous communication between stomach and splenic cavity.

the presence of a gastrosplenic fistula (Fig. 2). The patient was followed by an endoscopy in the fistula appeared to have closed by the fourth cycle of chemotherapy. This was confirmed when the patient underwent an exploratory laparotomy with splenectomy. Neither during the surgery nor within the pathology report was there a fistula noted. The excised spleen and lymph nodes showed only multiple epithelioid granulomata,

so a diagnosis of pathological remission was noted.

Discussion

Gastrointestinal hemorrhage from a gastrosplenic fistula is a rare presentation. Over 35 years, fewer than 15 cases have been reported. Primary splenic lymphomas, ⁽¹⁻³⁾ gastric lymphomas, ^(4, 5) gastric adenocarcinoma, ⁽⁶⁾ gastric Crohn's disease, ⁽⁷⁾ and benign gastric ulcers, ^(8,9) are known causes of gastrosplenic fistula formation. Gastric and splenic lymphomas are also known to erode into the colon ⁽¹⁰⁾. The first gastrosplenic fistula was reported in 1962 from Belgium. ⁽³⁾ The previous article described two patients with lymphoma of the spleen who developed fistulas. One had a double fistula from the spleen to the colon and jejunum discovered at autopsy. The other was diagnosed radiologically by the presence of air and oral contrast within an enlarged spleen at CT scan. ⁽³⁾ The article stresses the fact that lymphomas that cause splenomegaly with a central necrosis have a tendency to adhere or fistulize to other organs. Our case was typical of diffuse large cell (histiocytic) lymphoma. The classic presentation, as first described by Harris et al. ⁽⁵⁾ in 1984, consisted of left upper quadrant pain, fever, weight loss, and radiographic evidence of a splenic mass. ⁽⁵⁾ The most characteristic finding seen with all ten patients ⁽⁵⁾ was a moderate to massive splenomegaly, either a single large mass or multiple confluent nodules with extensive central necrosis involving 85 to 90% of the parenchyma of the spleen. This was also noted in our patient. They maintained that the presentation and clinical features were unique to large cell lymphoma of the spleen and differ from the lymphocytic or follicular lymphoma. Harris et al. ⁽⁵⁾ also noted that most patients responded well to initial therapy but that the overall survival was poor, and they therefore concluded that improved survival may be predicted by a less radical operation following chemotherapy and/or radiation treatment, ⁽⁵⁾ as was done in our patient.

The potential need for an immediate splenectomy was addressed 1983 by Bubenik et al., ⁽⁴⁾ with histiocytic lymphoma and gastrosplenic

fistula, underwent an en-bloc-resection of the greater curvature of the stomach, splenectomy, and distal pancreatectomy, urgently. They explain that this was “because a cavity within the splenic parenchyma was being bathed by gastric juice and erosion of the splenic vessels could have caused massive bleeding”.^(4, 18) Such a case, in which a patient with large cell lymphoma presented 1-year post-chemotherapy with massive hematemesis, was reported.⁽³⁾ At laparotomy, the patient was found to have a narrow fistula from the stomach to the spleen, which was lined with fibrous scar tissue. The spleen and the greater curvature of the stomach were removed and the patient, after 3-years of follow-up has been asymptomatic. Historically, chemotherapy and radiation are known to cause an increased incidence of fistulization.⁽¹²⁻¹⁵⁾ A syndrome known as acute tumor lysis syndrome has been described in the literature as an adverse event post-chemotherapy for extensive, highly proliferative, and chemosensitive tumors.^(16,19) As many as 25 per cent of patients reported by Rosenfelt⁽¹⁷⁾ with diffuse histiocytic lymphoma have bleeding, perforations, and fistulas as complications post-chemotherapy and post-

radiation. In combination with the tendency for large cell lymphomas to cause extensive necrosis,⁽⁴⁾ it is hypothesized that the rapid regression of the tumor via the chemotherapy or radiation results in a track or “fistula” between organs. Whether there will be an increased incidence associated with the increased use of chemotherapy and radiation in the treatment of lymphomas remains unknown, but the numbers raises the question of obtaining an immediate post chemotherapy CT scan with oral contrast to rule out fistula. If a fistula is indeed noted by either CT scan or endoscopy, it is our opinion that a splenectomy should be performed in order to prevent potential bleeding. Despite the fact that the fistula may eventually close as in our patient, bleeding has been reported in previous cases.

Conclusion

Gastrosplenic fistulas are rare but are noteworthy in non-Hodgkin's lymphoma. After chemotherapy, it is recommended to perform a CT scan and/or endoscopy as a part of follow up for such possible complication. In the event of such an occurrence, a splenectomy should be performed to avoid further complication.

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