

Gastrosplenic Fistula, an Unusual Diagnosis of Gastric Haemorrhage: Case Report

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Abstract

Case Report

A gastrosplenic fistula is an exceptional consequence of gastric cancer and a rare source of significant upper gastrointestinal hemorrhage. We report a case of a spontaneous gastrosplenic fistula secondary to gastric adenocarcinoma. The patient was taken to the emergency department with haematemesis and a hemoglobin level of 1.9g/l. A CT scan indicated that there was a gastrosplenic fistula. Because the bleeding had ceased, primary surgical treatment of the fistula was judged unnecessary. The patient was stabilized, transfused, and sent to an oncology unit for chemotherapy. We hope to raise awareness of this unusual consequence of gastric malignancies, review the presenting signs and symptoms, and evaluate the imaging aspects.

Keywords: Gastrosplenic Fistula, Gastric Haemorrhage, Splenic Infarct, Imaging.

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BACKGROUND

Gastrosplenic fistula (GSF) is a rare disease entity resulting from gastric and splenic malignancies. It is also rarely caused by benign pathologies such as Crohn's disease, splenic abscess and trauma, or sickle cell disease [1–3]. There have been 28 instances described in the literature since 1962, with the first case report coming from Belgium [4]. It can arise spontaneously or as a result of chemotherapy, radiation treatment, or a combination of the two in neoplastic disorders. Diagnosis and treatment need a multidisciplinary approach including gastroenterologists, radiologists, surgeons and oncologists [1-5].

CASE REPORT

39 years old man with a history of advanced gastric adenocarcinoma presented to the emergency department with a 2days history of melena and haematemesis. He hasn't been on any treatment or chemotherapy for the last 6months. On admission, he

was hypotensive with a blood pressure of 90/50 and a 94% oxygen saturation on room air. The laboratory test revealed a 1.9g/l Hb. An thoraco-abdominal CT scan was done and revealed important irregular thickening of the gastric wall and a large intra splenic collection containing gas bubbles. There was a loss of stomach wall integrity, and fistulisation into the spleen with clear communication between the gastric lumen and the air-filled necrotic splenic cavity. (Figure 1)

Hepatic and pulmonary nodules were also found and were considered to be metastasis. (Figure 2)

The review of a prior abdominal CT scan done 6month ago revealed an invasion of the splenic pedicle by the gastric cancer and a splenic infarct. (Figure 3)

The patient was transfused, and since the bleeding stopped, he didn't undergo any surgery. He was referred to the oncology department for palliative chemotherapy.

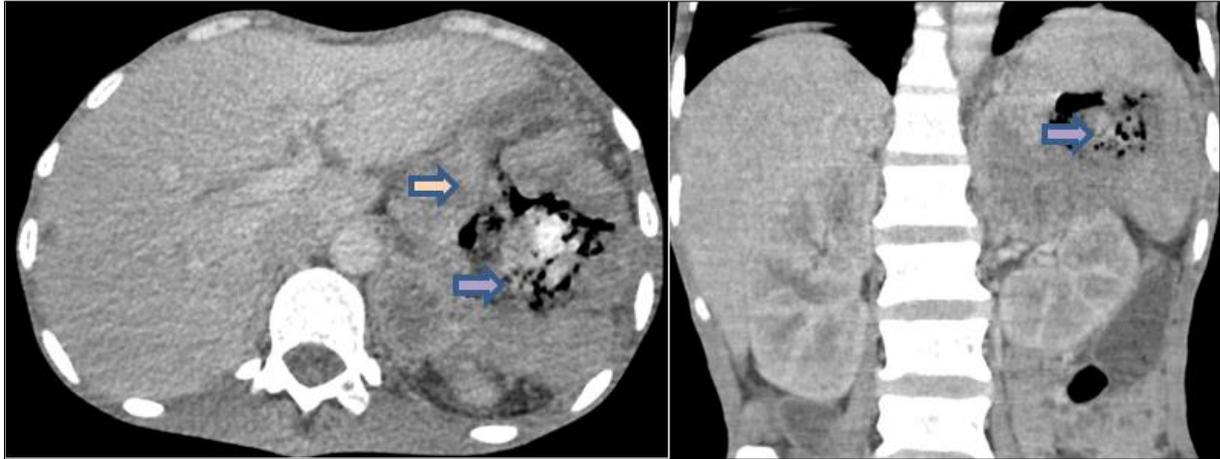


Figure1: Abdominal CT with contrast

Thickening of the gastric wall measuring 41 mm, heterogeneously enhancing (green arrow). There is significant infiltration of the peri-gastric fat.

individualization of a communication between the gastric lumen and a heterogeneous poorly limited splenic collection, containing air bubble and hyperdense material (yellow arrow)

It encompasses the splenic hilum which is not opacified and comes into contact with the spleen with

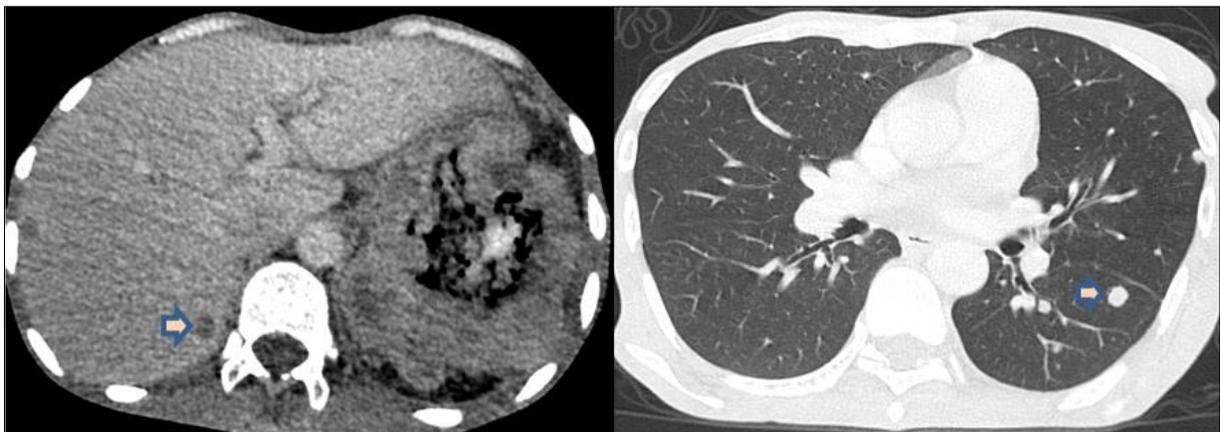


Figure 2: Abdomen and Thoracic CT

Hepatic and pulmonary nodules of metastatic nature (green arrows).

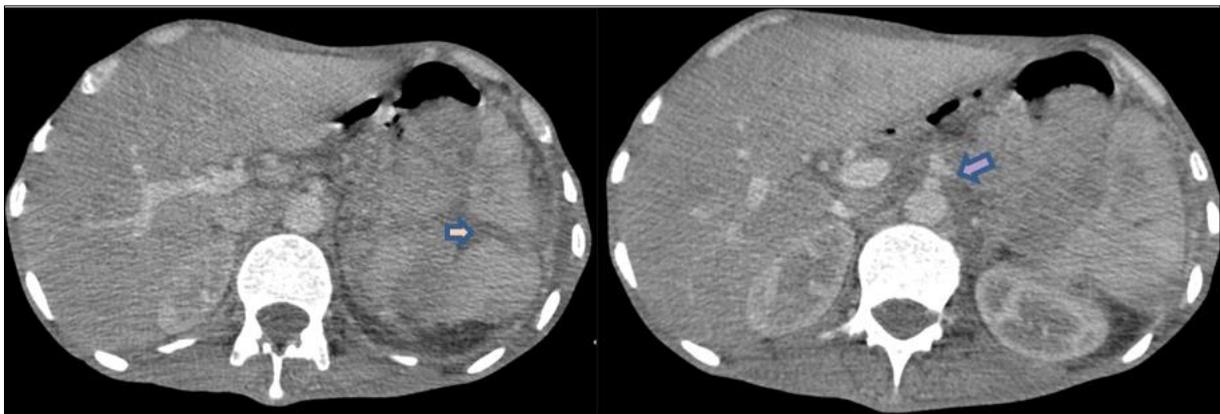


Figure 3: Abdominal CT with contrast done 6month previous:

Irregular parietal thickening of the greater gastric curvature measuring 30 mm in maximum thickness heterogeneously enhancing after contrast.

Engulfment of the splenic pedicle (yellow arrow) with multiple splenic infarcts (green arrow).

DISCUSSION

The first gastrosplenic fistula was reported from Belgium in 1962. The authors described a case of gastrosplenic fistula with a characteristic radiographic appearance due to the presence of air in the spleen, which they termed “aerosplenomegaly” [4].

There have been a few cases of gastrosplenic fistula in the literature since then, of which 7 were neoplastic, 4 resulted from perforation of benign gastric ulcers and 1 from gastric Crohn’s disease [6].

Among the neoplastic causes of gastrosplenic fistula, lymphoma was the underlying malignancy in 5 cases, of which 4 primaries were in the spleen and 1 in 3 the stomach. Lymphosarcoma and adenocarcinoma of the stomach were found in 2 Cases [6].

Gastrosplenic fistula is a consequence of several gastric and splenic cancers. The existence of the gastrosplenic ligament and the near proximity of the gastric fundus to the spleen allow the union of these two organs. Stomach bleeding occurs when malignant tissue invades the stomach wall vessels.

Gastrosplenic fistulas can develop from a variety of cancers, including adenocarcinoma, lymphoma, lymphosarcoma, leiomyoma, and leiomyosarcoma. However, because of the lack of a desmoplastic response, fistulation is more likely in lymphoma than in adenocarcinoma [7].

The most prevalent symptom of gastrosplenic fistulas is left upper quadrant discomfort. Massive haematemesis, on the other hand, is one of the most dreaded consequences due to its high fatality rate.

In recent years, CT has become the imaging tool of choice for diagnosing fistulas. Because of its great spatial resolution and correct staging of lesions, multislice CT is the most helpful technique for imaging diagnosis of gastrosplenic fistula.

The presence of oral contrast medium in the spleen is the standard finding. The existence of an air/fluid level within the spleen on non-contrast CT should raise the possibility of a fistula.

The location of the air/fluid level may correlate to the hypodense lesions found in the spleen and reflect sites of splenic infarction caused by gastric tumor involvement of the splenic artery. They can also be caused by a haematoma, splenic tissue liquefaction

following penetration, or metastases to the location of the main splenic lesion [8].

Gastroscopy is not required for fistula diagnosis but is required for the conclusive pathological diagnosis of gastric cancer. Gastroscopy can also be used to manage active bleeding by haemostasis.

Because of the risk of erosion into the splenic artery and catastrophic hemorrhage, surgery must be used to treat gastrosplenic fistula. Chemotherapy is the primary treatment for the underlying cancer.

A multidisciplinary strategy is essential for managing this unusual pathology: gastroenterologists, radiologists, oncologists, surgeons, and emergency medicine specialists must all collaborate [1].

CONCLUSION

Gastrosplenic fistula. Gastro-splenic fistula is a rare complication of gastric adenocarcinoma, which occurs due to direct invasion of the stomach and spleen. The early detection of this complication is essential for prompt management, and imaging techniques play a critical role in the diagnosis. It must be considered among the differential diagnoses of gastric haemorrhage and must be suspected in the presence of air bubbles in the spleen.

A large multifactorial study should be carried out to determine whether surgical resection or chemotherapy is more effective.

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