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MANAGEMENT OF HIGH OUTPUT GASTROCUTANEOUS FISTULA FOLLOWING EMERGENCY SPLENECTOMY IN A CASE OF COMPLICATED SPLENIC ABSCESS. A CASE REPORT.

General Surgery

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ABSTRACT

Introduction - Emergency splenectomies have known to carry serious complications such as Pancreatic duct injury with fistula formation, gastric necrosis and Overwhelming Post splenectomy infections (OPSI). Necrosis of the stomach with the formation of Gastrocutaneous fistula after isolated Splenectomy is a rare but serious event occurring in less than 1% of Splenectomies. Its mortality index is high and pathogenesis is controversial. Once this is diagnosed in the post operative period, it becomes imperative to reoperate. And the surgical procedure depends on the clinical status of the patient and condition of the peritoneal cavity. **Case presentation** - The objective of this study was to report a case of a middle-aged male patient who underwent Emergency Splenectomy due to complicated Splenic abscess, who then presented with high output from the drain and was diagnosed with Gastrocutaneous fistula (high output) in the postoperative period. The Patient was then managed conservatively in view of the clinical status, and thus had spontaneous closure of fistula and a good recovery without any surgical intervention. **Conclusion** - Awareness of the possibility of this unusual complication and the various treatment modalities aids in prompt management to reduce its high mortality rate.

KEYWORDS

Post splenectomy, Gastric necrosis, gastric fistula.

INTRODUCTION

Gastric necrosis and perforation with Gastrocutaneous fistula after isolated Spelenectomy are a rare but serious event occurring in less than 1% of Splenectomies[3,4,6]. Its mortality index is high reaching up to 60% [6]. The usual site of the gastric rupture is along the greater curvature in the fundic region. However, the cause appears to be due to interference with the vascular supply to the greater curvature of the stomach (due to ligation of short vessels) even though there is no gross evidence of damage to gastric wall intraoperatively.

The purpose of this study was to report on a case of such unusual complication which occurred post Emergency Splenectomy for Complicated Splenic abscess which was successfully managed conservatively.

CASE REPORT

A 48year old gentleman presented to Surgical outpatient department with complaints of fever and pain abdomen for 20 days with reduced appetite. He was a known smoker and had no significant past history / medical history. On examination, patient was a moderately built poorly nourished male with tachycardia on presentation. Per Abdominal examination revealed, Grade I Splenomegaly with Tenderness and guarding over the left Hypochondrium. Thorough Blood and Radiological Investigations were done. His Blood sugars were high and the Glycosylated haemoglobin levels - 12%.

Contrast enhanced CT abdomen showed Splenomegaly with ill-defined hypodense areas involving all poles of spleen extending beyond the splenic capsule and into perisplenic spaces, laterally abutting the innermost Intercostal muscles at 9th and 10th Intercostal space, the hilum and also to the greater curvature of stomach abutting the gastro splenic ligament ~ s/o Infective etiology (? abscess). Also, compression of the left Renal vein due to Superior Mesenteric Artery, however flow normal with No dilatation of bowel loops- likely Nutcracker syndrome.

Hence pt was admitted with a provisional diagnosis of Splenic abscess with uncontrolled Diabetes, Started on Broad spectrum Antibiotics and other necessary supportive treatment.

Patient was taken up for Emergency Exploratory Laparotomy + Splenectomy. Intraop findings- Frank pus of about 50-80 ml drained from the perisplenic region. Adhesions around the spleen released, Blunt dissection done, gastrosplenic ligament ligated, Splenic hilum clamped and divided and Specimen delivered and sent for histopathological examination. Inflammatory changes were seen along the greater curvatures of stomach and Splenic flexure of Colon. Thorough wash was given and the Left Subphrenic space was evacuated using a tubular drain exteriorized through an opening on the left flank. At the end of the Surgical procedure, color of the Stomach was normal. Postoperative treatment continued.

Fig.1. Spleen specimen postop

Patient was started on Oral liquids from Postop day 3. And the patient was improving until 8th Postoperative day when he complained of pain in the left Hypochondrium with the drain output volume visibly increased to around 1000 ml in 24 hours with partially digested food particles.

Patient was subjected to Contrast enhanced CT abdomen which revealed Gastric perforation at the upper part of the Greater curvature of stomach (12x10mm) with a thick-walled collection (68×25mm), in the left para colic gutter and evidence of fistulous communication with Stomach confirmed by oral positive contrast leak into the collection. Drain tip noted at the inferior part of the collection. Minimal ascites.

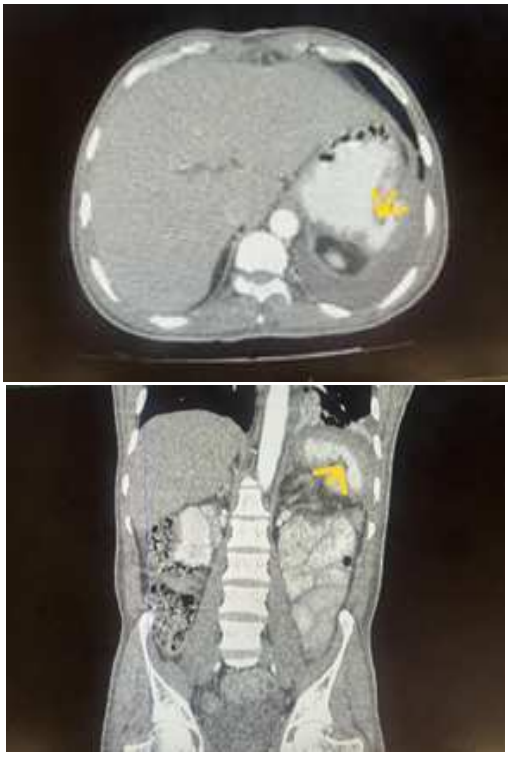

Fig 2. CT image showing contrast leak stomach into the collection.

Patient had a high drain output approx. 1500ml/24 hrs but no signs of peritonitis and was Hemodynamically stable, hence patient was planned to manage conservatively.

Management protocol included -
Oral Soft bland diet, Small frequent Light meals, Protein supplementation, Upright posture, Sleeping with Head end elevation and lying down in Right lateral decubitus position, intravenous Proton pump inhibitors, oral antacids, Broad spectrum Antibiotics and other necessary Support with drain care.

Drain secretion significantly decreased to around 50ml/24 hrs in a week by Postop day 15 with Hemodynamically stable conditions and Drain was removed on Postop day 24. Patient also had a superficial Surgical site infection which was drained and patient discharged in good general condition. Histopathological examination revealed Acute Suppurative lesion (abscess) - Spleen.

Patient was followed up for 6 weeks post discharge, and continued to show no symptoms.

DISCUSSION

Emergency splenectomies have known to carry serious complications such as Pancreatic duct injury with fistula formation, gastric necrosis and by Overwhelming Post splenectomy infections (OPSI).

The stomach has rich arterial blood supply which makes it typically resistant to postoperative ischemia [1]. Nevertheless, there are some surgical procedures that interfere with the blood supply, such that reports of gastric necrosis are increasing[2].

Gastric necrosis and perforation after isolated splenectomy is a rare but serious complication with a high mortality rate between 52% and 73% [5,11,12]. It is generally attributed to traumatism originating during the sectioning and ligation of the short vessels around the greater curvature of the stomach [3,6]. The necrosis or perforation usually occurs in the upper part of the stomach where the gastrosplenic ligament is found in close contact with the gastric wall. It is also possible to speculate that the necrosis maybe due to the ligation of short vessels associated with deficient anastomoses between the various arterial territories of the stomach.

At the apex of the triangular-shaped gastrosplenic omentum, the superior pole of the spleen is in its closest proximity to the stomach. One of the rarest conditions which may predispose to a gastric fistula following splenectomy is the presence of organizing hematoma with inflammatory reaction in the gastrosplenic omentum adjacent to the gastric wall secondary to rupture of the spleen, which was published by Harrison et al [6]. There are other several conditions which may predispose to gastric fistula following splenectomy, such as abrasions or denudement of serosal covering of the greater curvature of the stomach resulting from a technically difficult splenectomy [8], Decreased vascularity, especially in elderly patients with arteriosclerotic disease of the gastric vasculature, any condition predisposing to stress ulceration.

In this case study, we believe that the inflammatory reaction in the gastrosplenic omentum due to a complicated splenic abscess which had ruptured through its capsule was the leading cause for the stomach perforation as it led to compression necrosis on the fundus wall. This hypothesis is reinforced by the fact that intraoperatively, careful and meticulous handling of tissues were observed and no signs of local trauma or discoloration of stomach was seen at the end of surgery.

Normally, the symptoms of gastric necrosis or perforation appear between the 2nd and the 10th days post splenectomy, and the symptomatology includes upper GI bleeding, subphrenic abscess or collection, or peritonitis of sudden onset [10]. The presence of an effective abdominal drain facilitates the diagnosis of the complication by revealing changes not only in the volume but also in the characteristics of the drained effluent. The confirmation of the presence of fistula is performed using abdominal radiography after the ingestion of water-soluble contrast medium as in our case.

The treatment of this complication is preferably surgical, although occasionally there is success using a conservative treatment [7]. The type of surgical procedure to be used is dependent on the conditions of the peritoneal cavity and of the patient. Suture of the gastric wall may be done on smaller lesions where local debridement is possible. In cases of larger lesions affecting significant areas of the stomach, there is a preference for gastric resection.

But here in our case we succeeded in managing our patient conservatively with a self-designed protocol with the background knowledge of treating perforation peritonitis.

Emphasis on the anatomical knowledge of the arterial irrigation of the stomach with its variations, and meticulous surgical techniques are fundamental in reducing the occurrence of gastric necrosis or perforation post splenectomy. Early diagnosis and prompt treatment in inadvertent cases, help in reducing the high mortality associated with this condition.

CONCLUSION

In conclusion, understanding the complexities of gastric perforation and necrosis post-splenectomy requires a multifaceted approach. Surgeons must consider anatomical variations, be vigilant during surgery, and remain attuned to potential complications. Early diagnosis, whether through symptoms or diagnostic tools, is crucial for improving patient outcomes and reducing the high mortality associated with this serious complication.

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