

Gastrocutaneous Fistula: An Atypical Presentation

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Abstract

Gastrocutaneous fistulas (GCF) are rare but serious post-operative complication, usually as a result of previous surgery to the alimentary tract. The most well described conditions etiologically related to GCFs include breakdown of gastroenteric anastomosis, disruption of gastric suture lines following bariatric surgery, Chronic inflammatory disease, failure of gastrostomy tract healing, and others. We report.

Keywords: Gastrocutaneous fistula; Post-operative complication; Gastric inflammation; Bariatric surgery

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Introduction

A Gastrocutaneous fistula (GCF) represents a fistula connecting the stomach with the skin. Gastrocutaneous fistula have been well described as post-operative complications following surgery to the alimentary tract as well as a host of inflammatory conditions [1,2]. See **Table 1** for a list of etiological conditions. Isolated primary spontaneous Gastrocutaneous fistulae are a seemingly rare occurrence, and literature in this respect is lacking. In patients with chronic inflammatory disease a GCF can be precipitated by inflammatory erosion of the gastric wall, creation of an abscess and finally fistula formation [3,4].

Presenting complaints and complications vary according to underlying etiology. Post-surgical complications such as abdominal pain, painful bowel obstruction and fever have been described. Diagnosis is clinical, but largely dependent on gastroenterography [1,3,4].

Gastric fistula cases may be treated conservatively, including the

Table 1 Aetiological conditions resulting in GCF.

Surgical (traumatic)	Non-Surgical (Inflammatory)
Latrogenic gastric injury following splenectomy and other procedures	Carcinoma
Breakdown of Gastroenteric anastomosis	Chronic inflammatory disease
Disruption of Gastric suture line following bariatric or conventional Surgery	Pancreatitis or Pancreatic Abscess
Failure of Gastrostomy tract healing	Radiation

administration of drugs such as somatostatin, antibiotics and supportive care with total parental nutrition. Certain cases may be treated using the injection of fibrin sealant. However, only 6% of all cases close spontaneously, and surgery should be performed in cases that have persisted for 120 days following diagnosis [1,2,5-8]. Generally, patient outcome is good in patients with gastric fistula due to the administration of timely therapy. However, among patients with normal body weight who underwent recent gastric surgery the mortality rate is about 35% [7].

Case Report

A 49-year-old female with no known co-morbidities presented to the Surgical Casualty at Robert Mangaliso Sobukwe Hospital in Kimberley, South Africa with a 2-day history of food contents draining from an open wound 2cm superior to the umbilicus. This was preceded by a 1-week history of a painless, pustular lesion that spontaneously ruptured. No associated abdominal pain, reflux or change in bowel habits was noted. Background history revealed a 3-month loss of appetite, with \pm 8kg weight loss. A 22-pack year smoking history was noted, however; alcohol, chronic medication, non-steroidal anti-inflammatory and alternative medication use was denied. The patient reports 5 previous uncomplicated normal vaginal deliveries with an open post-partum tubal ligation in 2008.

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On examination, the patient appeared chronically ill with generalized wasting, with no other peripheral features suggestive of underlying malignancy. Her abdomen was soft, non-tender and not distended, with an open wound in the midline epigastric region 2cm superior to the umbilicus. The wound had exposed hyperemic mucosa and was actively discharging what appeared to be partially digested food particles and gastric fluid. Also noted was the pfannenstiell incision from her previous bilateral tubal ligation.

Blood chemistry analysis demonstrated renal functions and electrolytes to be within normal parameters. The estimated Glomerular filtration rate is greater than 60, Albumin of 18g/L and haemoglobin of 8.7g/dL respectively. Chest X-ray was unremarkable.

An Oral and Intravenous Contrast Enhanced Computed Tomography scan was done to confirm diagnosis and to aid surgical planning. Contrast was seen extending from the stomach into the anterior abdominal wall. Subcutaneous extension of contrast was also seen. No contrast was seen extending intraperitoneally. Thus, confirming a Gastrocutaneous fistula with subcutaneous extension (**Figures 1 and 2**). A failed conservative approach with Total parenteral nutrition together with patient preference necessitated a surgical approach.

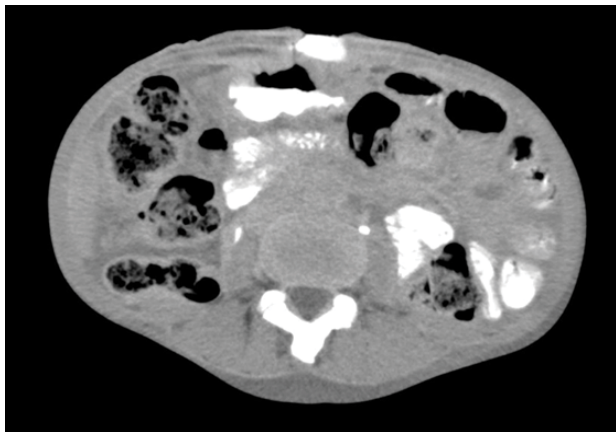


Figure 1 Axial view contrasted CT. Image is not to scale.

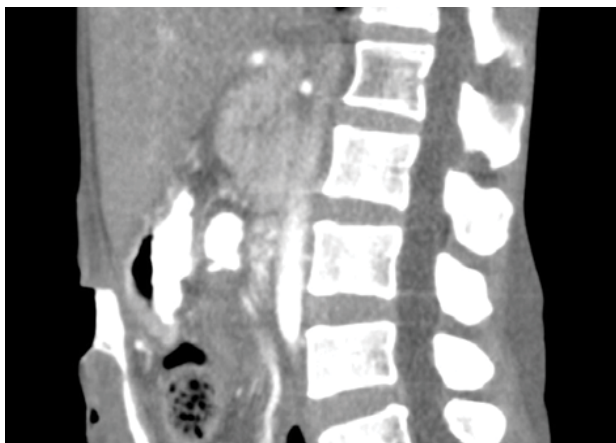


Figure 2 Sagittal view contrasted CT showing contrast extravasation. Image is not to scale

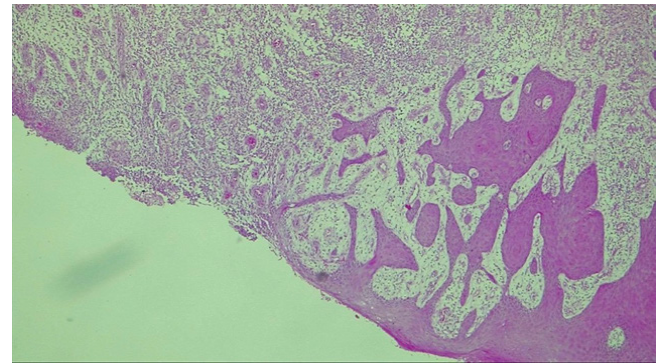


Figure 3 Microscopy slide demonstrating subacute dermatitis and ulceration secondary to gastric acid irritation

Discussion

Elective laparotomy after pre-operative nutritional status optimization was undertaken, Intra-operatively the fistula was noted to extend from the greater curvature of the stomach, proximal to the antrum to the skin. The fistula and the tract were excised. The defect in the stomach was primarily closed with an absorbable monofilament suture. Extensive adhesion between the stomachs, liver and anterior abdominal wall, as well as pelvic adhesions of the small bowel to the uterus were noted [9].

Histopathology reported both skin and gastric tissue in the specimens, and concluded gastric inflammation and ulceration to be the underlying cause of this fistulous tract. No organisms, dysplasia, malignancy or *H. pylori* were not demonstrated (**Figure 3**).

Conclusion

Post-operative management was unremarkable with the patient tolerating a full diet upon discharge with Oral Proton pump inhibitors. At 1 month follow up, no issues were raised by the patient, with her wound having healed completely. Further endoscopic follow up was prescribed. Written informed consent was obtained from the patient for publication of this case study. We present a case of GCF secondary to gastric inflammation and ulceration.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

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