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A rare case of caecal volvulus post gastrectomy for gastric cancer

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ABSTRACT

INTRODUCTION: Surgery for gastric cancer is associated with a high morbidity and mortality rate. Postoperative complications are not uncommon in this setting and an understanding of risk factors and patient profile can impact clinical outcomes.

PRESENTATION OF CASE: We present a rare event where a 64 year old patient post gastrectomy for a T1 gastric carcinoma developed a caecal volvulus leading to critical instability. This demonstrates how two events can occur in time leading to critical instability. Exploratory laparotomy revealed a caecal volvulus that had obstructed the jejunostomy site. She had a right hemicolectomy and the jejunostomy was uninked. This is the first documented case report of this type in the literature.

DISCUSSION: Surgical resection remains the cornerstone therapy for gastric cancer. Postoperative complications are not uncommon in this setting where risk factors impact clinical outcomes. The importance of risk factors has been demonstrated in patients who underwent gastrectomy. We present a rare event where a patient post gastrectomy develops a caecal volvulus demonstrating how two events can occur in time leading to critical instability.

CONCLUSION: Post operative complications are not uncommon in gastrectomies. Although common things occur commonly, one must consider rare events when a patient significantly deteriorates.

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1. Introduction

Surgical resection remains the cornerstone therapy for gastric cancer. Postoperative complications are not uncommon in this setting where risk factors impact clinical outcomes. The importance of risk factors has been demonstrated in patients who underwent gastrectomy [1]. We present a rare event where a patient post gastrectomy developed a caecal volvulus demonstrating how two events can occur in time leading to critical instability. This is the first documented case report of this type in the literature. The case report has been reported in line with the SCARE 2018 criteria [2].

2. Presentation of case

A 64 year old woman presented for an elective radical total gastrectomy, and feeding jejunostomy for a poorly differentiated T1 gastric carcinoma under an upper gastrointestinal surgeon. She had a background history of hypertension and anaemia. She had no significant family history, psychosocial history, or previous sur-

gical history. She was on an antihypertensive medication for her hypertension. She progressed as expected post operatively with no immediate intra operative complications with jejunostomy feeds commenced the following day. On day 2, a routine post-operative contrast CT scan to interrogate the anastomosis did not demonstrate a leak, but bilateral pleural effusions were present. On day 4, she had multiple vomits and had not opened her bowels since the procedure. Examination revealed she was tachycardic (Heart rate 140bpm), febrile (Temperature 39.4 degrees Celsius) and dyspnoeic (Respiratory rate 27, spO2 96% 6 L O2). Her abdomen was mildly tender and her peripheries were cool. Her biochemical markers revealed pH 7.45, Lactate 4.2 mmol/L, white cell count $1.9 \times 10^9/L$, C-reactive protein 456 mg/L. A septic workup and repeat CT chest abdomen pelvis followed. She was commenced on broad spectrum antibiotics for a suspected aspiration pneumonia. The CT findings showed a markedly dilated roux loop suggesting of an obstruction, a distended caecum and ascending colon suggestive of a caecal volvulus, and bilateral pleural effusions [Fig. 1]. Urgent exploratory laparotomy was performed with findings of a grossly distended caecal volvulus compressing the feeding jejunostomy and obstructing the small bowel at the abdominal fixation sutures of the jejunostomy site. A right hemicolectomy was performed and the jejunostomy was un-kinked from its obstructive point with subsequent clinical confirmation of small bowel viability. The feeding

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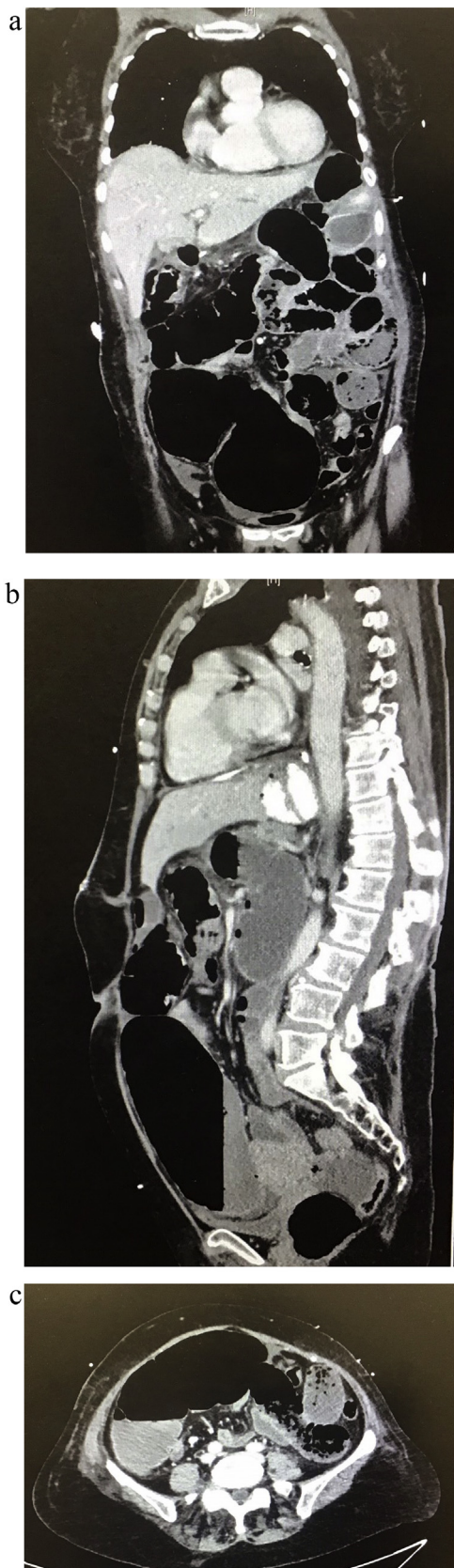


Fig. 1. CT scan demonstrating caecal volvulus (coronal, sagittal, and axial view) with features suggestive of an obstruction at the jejunostomy (axial view).

tube was removed and the small bowel defect repaired primarily. She subsequently developed bacteraemia which required further intravenous antibiotics and a prolonged admission in intensive care for a tracheostomy, ARDS, and pericardial effusion and pleural effusions, but eventually made a full recovery. Subsequent histology of the resected colon confirmed ischaemic changes consistent with the volvulus.

3. Discussion

The increased incidence of gastric cancer and multiple comorbidities in an ageing population leads to a higher post-operative risk of complications influenced by various clinicopathological factors [3]. NSW Cancer Institute mortality data for gastrectomy (2014–17) is 1.7% at 30 days and 3% at 90 days [4] with the Eureka project reported similar mortality rates at 2–7% [5]. In the European setting, post-operative complications include intra operative damage to vessels and viscera, bleeding, post-operative intestinal obstruction, anastomotic leakage, post-operative pancreatitis and many more. To the best of our knowledge, this represents the first reported case of a caecal volvulus post gastrectomy with compression and obstruction of the jejunostomy feeding tube site.

A caecal volvulus is a torsion of part of the colon, commonly including the ascending colon and terminal ileum, on its mesenteric axis resulting in compromise of blood flow. Rokitanisky first described caecal volvulus in 1837 [6], and it represents the second most common type of volvulus accounting for 25–40% of all adult colonic volvulus [7] with a reported incidence of 2.8–7.1 cases per year per 1 million people [8]. It has been reported with many associated factors such as adhesions from abdominal surgery, chronic constipation, pregnancy, prolonged immobility, or congenital abnormalities in the right colon [9,10]. Her symptoms of vomiting, constipation and dyspnoea were suggestive of an aspiration pneumonia and possible intestinal obstruction. However, in the immediate post-operative setting, the likelihood of an obstruction or volvulus was considerably low and perhaps was overshadowed by her respiratory decline.

4. Conclusion

This case highlights that although common things are common, rare complications can occur and a sound knowledge and a degree of strong clinical acumen is required when dealing with high risk surgical cases. When a patient's post-operative condition is not well explained by common scenarios, one must consider other less common differentials for post-operative complications in the context of a critically unwell patient.

Declaration of Competing Interest

The authors report no declarations of interest.

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Ethical approval

We have reported a single case, not a clinical study, with no requirement for ethical approval.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy

of the written consent is available for review by the Editor-in-Chief of this journal on request.

Authors contribution

All authors have contributed substantially to the following aspects of the present study: (1) the conception and design of the study, or acquisition of data, or analysis and interpretation of data, (2) drafting the article or revising it critically for important intellectual content, (3) final approval of the version to be submitted.

Registration of research studies

Not applicable.

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References

- [1] M.C. Kim, W. Kim, H.H. Kim, S.W. Ryu, S.Y. Ryu, K.Y. Song, et al., Risk factors associated with complication following laparoscopy-assisted gastrectomy for gastric cancer: a large-scale Korean multicenter study, *Ann. Surg. Oncol.* 15 (2008) 2692–2700.
- [2] R.A. Agha, M.R. Borrelli, R. Farwana, K. Koshy, A. Fowler, D.P. Orgill, For the SCARE Group, The SCARE 2018 statement: updating consensus surgical CAse REport (SCARE) guidelines, *Int. J. Surg.* 60 (2018) 132–136.
- [3] T. Hamakawa, Y. Kurokawa, J. Mikami, Y. Miyazaki, T. Takahashi, M. Yamasaki, et al., Risk factors for postoperative complications after gastrectomy in gastric cancer patients with comorbidities, *Surg. Today* 46 (2) (2016) 224–228.
- [4] NSW Cancer Institute, Cancer Statistics NSW, 2020 [Cited on 13/08/2020, Available from: <https://www.cancer.nsw.gov.au/cancer-statistics-nsw/#/analysis/mortality/>].
- [5] M. Messenger, W.O. de Steur, J.W. van Sandick, J. Reynold, M. Pera, C. Mariette, et al., Variations among 5 European countries for curative treatment of resectable oesophageal and gastric cancer: a survey from the EURECCA Upper GI Group (EUropean REgistration of Cancer CAre), *Eur. J. Surg. Oncol.* 42 (1) (2016) 116–122.
- [6] C. Rokitansky, Intestinal strangulation, *Arch. Gen. Med.* 14 (1) (1837) 202–210.
- [7] R. Bandurski, K. Zareba, B. Kedra, Cecal volvulus as a rare cause of intestinal obstruction, *Pol. Przegl. Chir.* 83 (9) (2011) 515–517.
- [8] J.I. Rodríguez-Hermosa, A. Martín, R. Farrés, J. Pont, A. Codina-Cazador, B. Ruiz, et al., Obstrucción intestinal por vólvulo de ciego, *Cir. Esp.* 78 (6) (2005) 385–387.
- [9] D.G. Howard, J. Catto, Cecal volvulus. A case for nonresectional therapy, *Arch. Surg.* 115 (3) (1980) 273–277.
- [10] J.A. Wolfer, L.E. Beaton, B.J. Anson, Volvulus of the cecum. Anatomical factors in its etiology, *Surg. Gynecol. Obstet.* (1942) 882–894.

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