



DJ Flexure Pathologies—A Case for a Bowel-First Approach in Gastric Bypass Surgery

Sarah Powell-Brett¹  · Martin Richardson¹ · Rishi Singhal¹

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Dear Editor,

Roux-En-Y gastric bypass is one of the most commonly performed bariatric procedures worldwide. Despite consensus regarding the overall anatomical configuration, there continues to be two schools of thought with regard to the order of procedure steps: ‘bowel-first’ approach or ‘pouch-first’ approach. Our unit is in a unique position with an equal mix of surgeons doing both the techniques. There continues to be a dialogue regarding which technique is superior. We’ve thus put together some of our experiences to finally put this controversy to rest.

Duodenojejunal (DJ) flexure and proximal small bowel pathologies are not uncommon. Over the last five years, we have encountered paraduodenal hernias, DJ flexure gastrointestinal stromal tumours (GISTs), ectopic pancreas, and malrotation as incidental findings during this procedure. Paraduodenal hernia is the commonest type of internal hernia (accounting for more than 50% of all internal hernias) [1] and can be either left- or right-sided. The left-sided paraduodenal hernia involves the small bowel invaginating into an avascular segment of the left mesocolon trapping the small bowel between the mesocolon and posterior abdominal wall (Landzert’s fossa), present in around 2% of the population [2]. The right-sided paraduodenal hernias have the small bowel herniating through a defect in the first part of the jejunal mesentery (Waldeyer’s fossa), present in around 1% of the population [3]. Since this can be reduced, a

‘pouch-first’ approach is a challenge in such a scenario but not necessarily a complete disaster.

GISTs are mesenchymal tumours of the gastrointestinal tract and have an incidence of 10–15 million per year and between 3 and 5% of these occur in the duodenum [4]; small tumours are usually asymptomatic, incidental findings [5]. Ectopic pancreas have a prevalence of between 1 and 13%, but the majority are asymptomatic and largely an incidental finding at surgery or endoscopy [6]. The presence of these pathologies, especially close to the DJ flexure, usually mandates bowel resection and histopathology for confirmation. The uncertainty in pathology thus mandates either abandoning the procedure or converting to a bowel-sparing bariatric procedure instead. Neither of these would be possible with a ‘pouch-first’ approach.

The incidence of malrotation is difficult to calculate; based on post-mortem examinations, it is estimated at 1 in 6000 live births, most (64–80%) present in the first month and 90% by the first year; however, the rest may remain asymptomatic until found incidentally in adulthood [7, 8]. Most cases would require abandoning the procedure or performing a non-bowel-involving bariatric procedure.

In our relatively small experience of just under 1000 primary and revisional gastric bypasses, we have encountered—three ectopic pancreas and two GISTs. Four of these required resection (wedge or complete) with abandoning the procedure. All of these patients subsequently underwent RYGB at a second operation. The fifth patient had a biopsy (which was subsequently diagnosed as being insufficient) and underwent a sleeve gastrectomy instead. One patient had a paraduodenal hernia. Unfortunately, this was only discovered following pouch formation. Thus, this required tedious reduction and probably an imperfect closure of the defect followed by conclusion of the procedure. Finally, one patient was diagnosed with a part malrotation. Unfortunately, this was again in a patient in whom a pouch had already been created. Thus, surgery was completed

✉ Sarah Powell-Brett
Sarah.powell-brett1@nhs.net

Martin Richardson
Martin.richardson@heartofengland.nhs.uk

Rishi Singhal
Rishi.Singhal@heartofengland.nhs.uk

¹ Birmingham Heartlands Hospital, Birmingham, UK

and all attempts made to ensure there was no rotation of the jejunal-jejunal anastomosis and defects were closed.

Though individually relatively rare, collectively, there are a number of duodenal-jejunal pathologies that if not inspected for before pouch creation could create significant difficulties if found after pouch creation. We therefore suggest that when performing a gastric bypass, one either takes a ‘bowel-first’ approach or performs a thorough inspection of the proximal small bowel before proceeding with pouch creation.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

References

1. Selçuk D, Kantarci F, Oğüt G, et al. Radiological evaluation of internal abdominal hernias. *Turk J Gastroenterol.* 2005;16:57–64.
2. Osadchy A, Weisenberg N, Wiener Y, et al. Small bowel obstruction related to left-side paraduodenal hernia: CT findings. *Abdom Imaging.* 2005;30:53–5.
3. Martin LC, Merkle EM, Thompson WM. Review of internal hernias: radiographic and clinical findings. *AJR Am J Roentgenol.* 2006;186:703–17.
4. Soreide K, Sandvik O, Soreide J, et al. Global epidemiology of gastrointestinal stromal tumours (GIST): a systematic review of population-based cohort studies. *Cancer Epidemiol.* 2016;40:39–46.
5. Cavallaro G, Polistena A, D’Ermo G, et al. Duodenal gastrointestinal tumors: review on clinical and surgical aspects. *Int J Surg.* 2012;10(9):463–5.
6. Trifan A, Târcoveanu E, Danciu M, et al. Gastric heterotopic pancreas: an unusual case and review of the literature. *J Gastrointestin Liver Dis.* 2012;21:209–12.
7. Fischer J., Bland K. Lippincott Williams and Wilkins; 2007. *Mastery of Surgery.*
8. Emanuwa O, Ayantunde A. Midgut malrotation first presenting as acute bowel obstruction in adulthood: a case report and literature review. *World J Emerg Surg.* 2011;6:22.

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