



## Invited Commentary

A Commentary on “Closure of mesenteric defects is associated with a higher incidence of small bowel obstruction due to adhesions after laparoscopic antecolic Roux-en-y gastric bypass: a retrospective cohort study” (Int J Surg 2019 Oct. Epub ahead of print)



## ARTICLE INFO

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## Dear Editor of IJS,

We read with interest the article by Nuytens and colleagues [1] who presented their retrospective cohort data of 1364 Roux-en-y gastric bypass (RYGB). They compared 724 patients with mesenteric defects left open (cohort 1) and 640 patients where mesenteric defects were closed (Cohort 2a: 501 jejunum-jejunostomy (JJ) defect only closed, Cohort 2b: 139 both JJ and Peterson's defects closed). They demonstrated no difference in small bowel obstruction (SBO) rates between groups (7.7%, 9.9%, 5% in cohort 1, 2 and 2b respectively) but higher rates of Internal hernia (IH) causing SBO in cohort 1 compared to 2a (71.4% vs 48%  $p = 0.02$ ). These results are consistent with the meta-analysis that demonstrated lowest risk of IH following antecolic RYGB with closure of both defects [2]. However, in this study, they found that the proportion of SBO caused by adhesions was higher in cohort 2 (48% vs 21.4%  $p = 0.004$ ). They also found higher rates of unexplained abdominal pain in cohort 2 (4.3% vs 2.1%  $p = 0.007$ ), a problem that may become increasingly prevalent for bariatric surgeons. Chronic abdominal pain is a significant cause of long term post-operative morbidity. The prevalence of chronic abdominal pain post RYGB was 11% in a large Danish cohort study with a median follow up of 63 months; however, they did not explore its association with mesenteric defect closure. They did find that 21% of patients self-reported severe abdominal pain postoperatively eluding to the scale of this problem [3]. A greater understanding of the aetiology of abdominal pain post RYGB is needed as it becomes an increasing burden on bariatric services and significantly affects post-operative quality of life for patients.

Interestingly Nuytens and colleagues demonstrated an association with smoking and SBO on multivariate analysis but were unable to show a particular association with IH or adhesions ( $p = 0.02$ ). In cohort 2, 30% of patients were defined as smokers. Whether this indicates current or recent smoking status is unclear. This seems high and, in our practice, we tend to strongly insist smoking cessation prior to RYGB. Perhaps there were higher rates of smokers in cohort 2, reflected in

higher pulmonary comorbidity compared to cohort 1 (8.2% vs 1.2%). This could potentially account for difference in adhesional obstruction rates between cohorts. Multiple sources hypothesise that smoking may cause adhesions by increased fibrosis and this association has been noted in animal models and patients undergoing caesarean section [4,5]. The effects of smoking have been shown to lead to increased post-operative complications. Inadomi et al. demonstrated using registry data for 49772 patients that smokers encountered increased post-operative serious complications following RYGB (OR 1.34 95% CI 1.01–1.77) [6]. Unlike this article the registry data found no increase in post-operative bowel obstruction in smokers following RYGB. This is certainly an area in need of further research to clarify the relationship and to guide on how to best optimise patients prior to surgery in the future.

**Ethical approval**

This type of article does not need ethical approval.

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Invited Commentary, internally reviewed.

**Declaration of competing interest**

Both Laura Gould and Chetan Parmar have no conflict of interest to declare.

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**References**

- [1] F. Nuytens, F. Rooy, M. D'Hondt, F. Vansteenkiste, H. Pottel, H. Abasbassi, A. Servaeghe, D. Devriendt, Closure of mesenteric defects is associated with a higher incidence of small bowel obstruction due to adhesions after laparoscopic antecolic Roux-en-y gastric bypass, *Int. J. Surg.* (Oct 2019), <https://doi.org/10.1016/j.ijvsu.2019.09.017> pii: S1743-9191(19)30248-1. (2019 Sep 19).
- [2] N. Geubbels, N. Lijftogt, M. Fiocco, N.J. van Leersum, M.W.J.M. Wouters, L.M. de Brauw, Meta-analysis of internal herniation after gastric bypass surgery, *Br. J. Surg.* 102 (2015) 451–460.
- [3] J. Gormsen, J. Burcharth, I. Gögenur, F. Helgstrand, Prevalence and Risk Factors for Chronic Abdominal Pain After Roux-en-Y Gastric Bypass Surgery: a Cohort Study, *Ann. Surg.* (2019), <https://doi.org/10.1097/SLA.0000000000003356> April 1 on line first. PMID: 31058699|Issn Print: 0003-4932|Publication Date: April 30, 2019.
- [4] C.N. Fortin, G.M. Saed, M.P. Diamond, Predisposing factors to post-operative adhesion development, *Hum. Reprod. Update* 21 (4) (2015) 536–551.
- [5] E.T. Condon, R.A. Cahill, D.B. O'Malley, N.J. Aherne, H.P. Redmond, Evaluation of postoperative peritoneal adhesion formation following perioperative nicotine administration, *J. Surg. Res.* 140 (1) (2007) 135–138.
- [6] M. Inadomi, R. Iyengar, I. Fischer, X. Chen, E. Flagler, A.A. Ghaferi, Effect of patient-reported smoking status on short-term bariatric surgery outcomes, *Surg. Endosc.* 32 (2) (2018) 720–726.

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