



## Commentary

## Comparison of totally laparoscopic total gastrectomy and laparoscopic assisted total gastrectomy: A systematic review and meta-analysis



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Dear Editor,

We read “Comparison of totally laparoscopic total gastrectomy and laparoscopic-assisted total gastrectomy: A systematic review and meta-analysis” with great interest. With rapid adoption of minimally invasive surgery in resectional cancer surgery, current evidence in gastric cancer surgery continues to expand [1]. This systematic review including ten studies highlighted totally laparoscopic total gastrectomy (TLTG) is associated with reduced intraoperative blood loss ( $p < 0.01$ ), greater number of retrieved lymphatic nodes ( $p < 0.01$ ), shorter length of hospital stay ( $p < 0.01$ ), reduced incision length ( $p = 0.05$ ), and shorter time to first fluid diet ( $p < 0.05$ ), as compared to laparoscopic-assisted total gastrectomy (LATG). This is an important review and we have several thoughts for discussion.

Firstly, total gastrectomy for cancer is recognised to have different and more difficult intraoperative challenges and postoperative outcomes profile. This is important due to the difficulty in performing an esophagojejunostomy and the potential outcomes which arise as a consequence of this challenge [2]. The authors attempt to address this issue is commendable and will add to the evidence base. Whilst there is a plethora of evidence to suggest outcomes from laparoscopic gastrectomy are comparable, the evidence base for short and long term outcomes following totally laparoscopic total gastrectomy continues to grow.

Secondly, reporting of the baseline demographics between TLTG and LATG and surgical techniques and learning curves of surgeons performing these techniques will add further value and knowledge of this systematic review. For instance, it is important to ensure the baseline characteristics such as age, tumour stage, use of neoadjuvant treatment between the groups are comparable to better understand the meta-analysis. This could be evaluated through meta-analysis of these characteristics to ensure there were no significant differences between TLTG and LATG. Reporting of the minimum number of cases, extent of lymphadenectomy, and anastomosis types between the two groups will give a better representation for adoption of these in the Western cohort.

Finally, the statistical methods used in meta-analyses to allow accurate reporting of effect sizes vary [3]. Normally, a fixed effects model is used when we assume that the true effect of any variable, such as sarcopenia, is the same across all studies i.e. the study is on a single population. However, as the studies combined in this meta-analysis are drawn from heterogeneous populations with differing disease factors and biology, it is unlikely that this assumption will hold true and is likely to overestimate the precision of the impact of blood loss, lymph node harvest, and length of stay in TLTG over LATG [3,4]. Utilisation of a random effects model would have been more appropriate.

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Sivesh K. Kamarajah  
Northern Oesophago-Gastric Unit, Royal Victoria Infirmary, Newcastle  
Upon Tyne, United Kingdom  
Institute of Cellular Medicine, Newcastle University, Newcastle Upon Tyne,  
United Kingdom

Arul Immanuel\*  
Northern Oesophago-Gastric Unit, Royal Victoria Infirmary, Newcastle  
Upon Tyne, United Kingdom  
E-mail address: [Arul.Immanuel@nuth.nhs.uk](mailto:Arul.Immanuel@nuth.nhs.uk).

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\* Corresponding author. FRCS Northern Oesophago-Gastric Unit, Royal Victoria Infirmary, Newcastle Upon Tyne, United Kingdom.

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