cervical anastomosis (n = 41) and mechanically stapled intrathoracic anastomosis (n = 42) with respect to risk of anastomotic leak, cardiorespiratory complications, reoperation rates or hospital mortality. Increased stricture formation in the intrathoracic group was attributed to wound retraction associated with the stapling device. In this study, cervical and intrathoracic anastomoses were created using different techniques and low incidence of anastomotic leak made correlation to site and severity difficult. Lam et al. [6] conducted a prospective non-randomized trial, which grouped patients according to anatomical location of the tumour and preoperative respiratory function. This study showed no significant difference between cervical (n = 117) and intrathoracic anastomosis (n = 294) with respect to anastomotic leak rates or post-operative mortality. Increased incidence of stricture formation in the intrathoracic group was attributed to a greater use of the stapling device in this group compared with the cervical group. In this study, cervical anastomoses were constructed using different surgical approaches and use of colonic and jejunal substitutes was not standardized. Johansson et al. [7] conducted a prospective study comparing pharyngeal reflux between manually sutured cervical anastomosis (n = 20) and stapled intrathoracic anastomosis (n = 27) post-oesophagectomy. There was increased acid reflux during the first year of life with cervical anastomosis, but this did not correlate with any difference in symptoms or stricture formation between the two groups. This study did not account for related comorbidities that influence acid reflux and presented very limited data on other post-operative complications.

Nguyen et al. [8] conducted a prospective study into minimally invasive oesophagectomy and showed no significant difference between cervical and intrathoracic anastomosis with respect to anastomotic leak rate, structure formation, length of hospital stay or mortality. Surgical approaches included thoracoscopic/laparoscopic oesophagectomy with a cervical anastomosis (n = 47), minimally invasive Ivor–Lewis oesophagectomy (n = 51), laparoscopic hand-assisted blunt transthiatal oesophagectomy (n = 5) and laparoscopic proximal gastrectomy (n = 1). Results included data for non-malignant surgery and variations in approach for anastomoses.

Blewett et al. [9] conducted a retrospective cohort study comparing three-stage (n = 16) and transhiatal (n = 3) cervical anastomoses with two-stage intrathoracic anastomoses (n = 55). The two groups were similar with respect to age, gender, histology, stage and adjuvant therapy. There were no significant differences between the two groups with respect to anastomotic leak rate or post-operative mortality. This was a retrospective study with a significant preponderance for intrathoracic anastomoses and very limited data on post-operative morbidity.

Egberts et al. [10] conducted a prospective study (n = 105) investigating the impact of anastomotic site on quality of life (QOL) following oesophagectomy. Intrathoracic anastomosis (n = 72) was associated with significantly increased pain at discharge compared with cervical anastomosis (n = 33), but this difference resolved by 24 months. There was no significant difference between the two groups in any of the other QOL categories or overall post-operative mortality. In this study, significant data was missing due to patient deaths and disease progression, which may have biased the results and overestimated the positive effects of any treatment.

**CLINICAL BOTTOM LINE**

Studies comparing cervical and intrathoracic anastomosis following oesophageal resection are small in size, poorly standardized with respect to surgical approach and anastomotic technique, and include patients who are poorly matched for neo-adjuvant therapy. Overall, there is currently insufficient evidence to show a significant difference between cervical and intrathoracic anastomosis with respect to post-operative complications and hospital mortality. Post-operative complications are unlikely to be independently related to the site of anastomosis and other factors such as surgical experience, technique and comorbidities affecting gastric conduit vascularity may be critical determinants of outcomes. The wide variety in methodology and outcomes reinforce the need for further randomized trials to more accurately establish any possible differences in outcomes.

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**REFERENCES**


eComment. Oesophagectomy: Could the anastomotic location be an independent prognostic factor?

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Despite vast advancements in surgical technique, oesophagectomy maintains a relatively high mortality and peri-operative morbidity rates. The systematic review by Kayani et al. attempted to investigate the effect of anastomosis location on post-operative outcomes and found only nine related papers from 1950 to 2011 [1]. About 40% of post-operative deaths are related to anastomotic leaks [2]. Studies comparing the outcome of cervical and intra-thoracic anastomoses following oesophageal resection are small in size and poorly standardized with respect to surgical approach and anatomic technique. The purpose of this letter is to put our experience into this clinical context.

In our recent series of unpublished 63 oesophagectomies for cancer, 46 were performed with a cervical semi-mechanical anastomosis (group A) and 17 with intra-thoracic anastomosis by circular stapler (group B). In all cases, the alimentary tract was reconstructed through the transposition of a gastric tube with the exception of five cases, in which the left colon was used in an anti-peristaltic way. The dehiscence rate was 11% in group A and 8% in group B (p Log Rank 0.11). Overall 30-day mortality was 14.5%. In group A, 24.5% of patients with anastomotic leak died before the 30th post-operative day (POD), whilst this percentage topped at 60% in group B.

Our findings are not in complete agreement with the conclusions of Kayani et al. [1] and suggest that a transhiatal oesophagectomy with a cervical anastomosis should be performed, since cervical fistulas are more easily treated conservatively, with good results of early endoscopic approaches. Furthermore, it is subject to a lower mortality rate within the 30th POD. We think that our data could improve the debate on better surgical approaches for oesophageal cancer treatment.

References