Feeding jejunostomy in upper gastrointestinal resections: a UK-wide survey

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ABSTRACT

INTRODUCTION The usage of a feeding jejunostomy has been a well-established practice in maintaining nutrition in patients undergoing resections for upper gastrointestinal cancer. As surgical technique has evolved, together with the adoption of enhanced recovery after surgery pathways, the routine insertion of feeding jejunostomy tubes appears to be changing.

MATERIALS AND METHODS A survey was constructed using Google Forms. The link was distributed to consultant upper gastrointestinal surgeons via the Association of Upper Gastrointestinal Surgeons' membership database. Results were collated and analysed using Microsoft Excel.

RESULTS A total of 55 responses were received from 28 units across the UK; 27 respondents (49.1%) no longer routinely use feeding jejunostomy in upper gastrointestinal resections, oesophagectomy or gastrectomy. The most common primary feeding modality used by these respondents was oral diet 17 (65.4%), with total parenteral nutrition (19.2%) and nasojejunal (11.5%) routes also being used. Respondents who used feeding jejunostomies inserted them primarily for oesophagectomy ($n = 27$; 96.4%), with fewer surgeons using them in extended total gastrectomy ($n = 12$; 42.9%) and total gastrectomy ($n = 11$; 39.3%). Of the total, 20 surgeons (71.4%) would insert the jejunostomy using an open approach, with 19 (67.9%) employing a Witzel tunnel. Eleven respondents (39.3%) would continue feeding via the jejunostomy after discharge. Some 24 responders thought that feeding jejunostomies did not facilitate the enhanced recovery after surgery pathway (strongly and slightly disagree), whereas 17 considered that they did (strongly and slightly agree); 13 responders did not have strong views either way.

CONCLUSIONS There is a split in current practice regarding the usage of feeding jejunostomies. There is also a division of opinion on the role of feeding jejunostomy in enhanced recovery after surgery.

KEYWORDS

Upper gastrointestinal tract – Jejunostomy

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Introduction

Oesophageal and gastric malignancies are the 14th and 17th most common cancers in the UK, respectively.¹ Although the incidence of gastric cancer has reduced over the past decade, oesophageal cancer has continued to account for 3% of all new cancer diagnoses.¹

Radical surgery for upper gastrointestinal malignancy is the mainstay of curative treatment for a disease affecting the oesophagus and stomach.² Operative approaches are recognised as highly invasive, with high mortality and morbidity, particularly with oesophagectomy.³ As surgical technique has evolved in conjunction with the adoption of minimally invasive surgery and enhanced recovery after surgery (ERAS) pathways, length of stay after oesophagectomy and gastrectomy is reducing,^{4,5} with patients returning to oral diet sooner.⁶ The usage of a feeding jejunostomy has

been a well-established practice in maintaining nutrition in patients undergoing resections for upper gastrointestinal cancer.⁷ This is not without risk of complications.^{8,9}

With patients able to commence oral intake earlier, we would like to start assessing the necessity for this intervention. At the time of writing, there were no searchable PubMed listed randomised controlled trials comparing feeding jejunostomy nutrition with oral diet after upper gastrointestinal resection. Our survey was designed to capture current practice and opinion in the UK upper gastrointestinal resectional community regarding the use of feeding jejunostomies.

Materials and methods

Questions were designed to capture the current opinions and practice regarding feeding jejunostomy after upper

gastrointestinal resection. After basic background questions, anticipating a split in practice, we designed questions for two arms; those surgeons that used feeding jejunostomy and those that did not (Fig 1). The survey was constructed

using Google Forms, with the link distributed to consultant upper gastrointestinal surgeons via the Association of Upper Gastrointestinal Surgeons' membership database. Results were collated via the spreadsheet function on Google Forms.

Figure 1 Flowchart depicting the questionnaire arms distributed via the Association of Upper Gastrointestinal Surgeons

This was then exported to Microsoft Excel for analysis. Ethical approval was not necessary as participation was voluntary and required no patient data.

Results

A total of 55 responses were received from 28 units across the UK, with most responses received from hospitals based in England ($n = 44$), Scotland ($n = 5$), Wales ($n = 4$) and Northern Ireland ($n = 2$; Fig 2). The majority of hospitals (85.5%) had an ERAS pathway for upper gastrointestinal

resections; 27 respondents (49.1%) no longer routinely use feeding jejunostomy in upper gastrointestinal resections, oesophagectomy or gastrectomy. While most centres responded uniformly to this question, six centres showed a mixed response. The most common primary feeding modality used by these respondents was oral diet ($n = 17$; 65.4%), with total parenteral nutrition (19.2%) and nasojejunal feeding (11.5%) also being used.

When asked under what conditions a feeding jejunostomy would be considered, the most common responses were for take-backs for anastomotic leak and a preoperatively

malnourished patient. Feeding jejunostomies were inserted primarily for oesophagectomy ($n = 27$; 96.4%), with fewer being used in extended total gastrectomy ($n = 12$; 42.9%) and total gastrectomy ($n = 11$; 39.3%). Some 20 respondents (71.4%) would insert them using an open approach, with 19 (67.9%) employing a Witzel tunnel. Freka feeding jejunostomy tubes were the most commonly used ($n = 19$; 73.1%), with MIC (19.2%) and Corflo (7.7%) being used less frequently.

Eleven respondents (39.3%) would continue feeding via the jejunostomy after discharge. Responses to the routine removal time of feeding jejunostomies varied from weeks to months post-surgery (2–16 weeks), with several respondents also including clinical factors: tolerating oral diet, stable weight and completion of adjuvant therapy being the most commonly cited. No respondent used a preresection feeding jejunostomy routinely. Table 1 shows the results for the series of questions relating to ERAS.

Discussion

This survey was designed to capture the current climate of experience and opinion with feeding jejunostomy insertion in upper gastrointestinal resections, and has demonstrated a divide in practice and opinion.

Some 49.1% of respondents do not routinely insert feeding jejunostomies for upper gastrointestinal resections. Given the prevalence of ERAS-related publications,^{10–12} this may represent a change in practice as the adoption of ERAS pathways becomes more widespread. Most respondents in this survey thought that patients commenced oral diet sooner (66.7% strongly and slight agree) on ERAS pathways, which may explain why almost 50% of the surgeons surveyed no longer routinely insert feeding jejunostomies. This may be backed up further by the most commonly used feeding method being oral diet (65.4%) in those patients who do not have a feeding jejunostomy. This may also explain why many units had a uniform response to the use of feeding jejunostomies, as the adoption of ERAS principles and pathways often requires a departmental approach.

As previously mentioned, there is high morbidity associated with these operations,⁵ and the respondents

who do not routinely insert a feeding jejunostomy may well insert one if there is a complication such as an anastomotic leak. Oesophagectomy was the most common operation where surgeons inserted a feeding jejunostomy (96.4%). We did not separate trans-hiatal and Ivor–Lewis oesophagectomy, but it is possible that there could be a difference between these two groups as mediastinitis from a chest leak is considered to be a more morbid complication,¹⁵ and therefore potentially more likely to have a covering feeding jejunostomy.¹⁴

The length of time that a feeding tube would remain in place after surgery is also highly variable. This most likely represents many factors that affect decision making: patient weight, tolerability of oral diet, operative approach and adjuvant therapy were the most frequent responses. Complications of feeding jejunostomy are noted in the literature as mainly minor issues (blockage, dislodging), which can require reoperation.¹⁵ Although it is widely considered to be a safe feeding modality, while a feeding tube is in use these risks remain present.

The ERAS process may result in reduced length of stay,^{16,17} but opinion is divided on whether it allows patients to meet their calorific requirements before discharge (Table 1). The role of the feeding jejunostomy in ERAS is also contentious, with slightly more surgeons disagreeing with the statement ‘Feeding jejunostomies facilitate the ERAS process’ than agreeing ($n = 24$ disagree vs $n = 17$ agree, with $n = 13$ neither agreeing nor disagreeing). When looking at complications, there is again a split, with 19 surgeons agreeing that ‘Complications of feeding jejunostomies outweigh their benefits’, 21 disagreeing and 14 neutral.

The aim of these questions was to establish thoughts on the clinical usage of a feeding tube. Responses to these questions will probably be affected by multiple factors, such as personal and departmental experience, local and national policy, as well as published evidence and guidance.^{18,19}

Conclusion

Our goal was to capture current opinions in the UK upper gastrointestinal resectional community. Given the responses we received, there appears to be a split in current practice

Table 1 Responses to enhanced recovery after surgery (ERAS) in upper gastrointestinal resections and feeding jejunostomy usage ($n = 54$)

Question	Strongly disagree <i>n</i> (%)	Slightly disagree <i>n</i> (%)	Neither <i>n</i> (%)	Slightly agree <i>n</i> (%)	Strongly agree <i>n</i> (%)
Patients commence oral diet sooner	2 (3.7%)	6 (11.1%)	10 (18.5%)	17 (31.5%)	19 (35.2%)
Patients can leave hospital meeting their calorific requirements by normal diet	7 (13%)	12 (22.2%)	13 (24.1%)	10 (18.5%)	12 (22.2%)
Feeding jejunostomies facilitate the ERAS process	16 (29.6%)	8 (14.8%)	13 (24.1%)	12 (22.2%)	5 (9.3%)
Complications of feeding jejunostomies outweigh their benefits	11 (20.4%)	10 (18.5%)	14 (25.9%)	5 (9.3%)	14 (25.9%)

regarding the usage of feeding jejunostomies. There is also a division of opinion on the role of feeding jejunostomy in the ERAS setting. Further studies to compare the outcomes of feeding jejunostomy usage would be welcomed to clarify opinion and inform practice.

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