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## Editorial

# Oesophago-Gastric Cancer and Minimally Invasive Surgery<sup>☆</sup>

## Cáncer esofagogástrico y cirugía mínimamente invasiva

Oesophago-gastric cancer is the fifth most common type of malignancy and the fourth most frequent cause of death in the United Kingdom, affecting 13 500 people every year.<sup>1</sup> Numerous epidemiological studies have shown that its incidence, particularly at the oesophago-gastric junction, has increased in recent years.<sup>2</sup>

The prognosis for this type of cancer is poor, with 5-year survival rates being approximately 7 per cent and 13 per cent for oesophageal and gastric cancer, respectively. Surgery, usually accompanied by neoadjuvant chemotherapy, is the principal treatment for these types of cancers.<sup>3</sup>

Since the first laparoscopic cholecystectomy was performed in 1986,<sup>4</sup> minimally invasive surgery has been applied to other organs of the digestive system. Oesophago-gastric cancer is one of the last tumours treated via the laparoscopic approach, perhaps due to its low incidence rate, its morbidity/mortality rates and the technical complexity associated with minimally invasive surgery.

When discussing this further, various aspects should be considered:

- whether there is sufficient clinical evidence to justify performing this type of surgery;
- the need to analyse what techniques are involved;
- the need to evaluate whether these techniques should only be undertaken in a small number of specialised centres;
- to assess who should perform the surgery and what training is necessary.

Regarding the clinical evidence available and the techniques this type of surgery applied in treating gastric cancer, there have been several reports from Japan and the East, where the high incidence of this disease and the significant number of early cases have facilitated its development. These results show the reproducibility of this approach with acceptable results. There is now widespread agreement in applying this surgery to early cases, as its results are comparable to those obtained with the traditional open approach and the morbidity/mortality rates are lower.<sup>5</sup> In

more advanced cases of the disease, it has been reported that open gastrectomy with D1β lymph node dissection removes more lymph nodes in a shorter operative time, probably due to the technical difficulties associated with laparoscopic lymphadenectomy.<sup>6</sup> In summary, laparoscopic gastrectomy is an acceptable approach, if it is performed by applying the radical principles of open surgery.<sup>7</sup> Therefore, only technical reasons would restrict its use.

In the case of oesophageal cancer, the minimally invasive approach is performed to minimise the aggression caused by thoracotomy.

In order to achieve this, 'hybrid techniques' such as thoracotomy with laparoscopic mobilisation of the stomach or laparotomy with thoracoscopic oesophageal mobilisation have been reported. These techniques have been widely adopted by surgical teams since their initiation, later followed by 'completely minimally invasive techniques', where the entire procedure, including the construction of the gastric tube, is performed by laparoscopy or the more widely accepted method of 'combined techniques'. Combining the techniques involves the complete dissection to be performed endoscopically and the creation of the gastric tube via minimal laparoscopy,<sup>8</sup> using this small incision to extract the piece. This combined approach seems to offer advantages in reducing the risk of ischemic conduit-related complications, which are more common when the whole procedure is performed using the laparoscopic approach.<sup>9</sup>

It may be that these 'hybrid' approaches facilitate the learning curve of surgical teams who begin to use this technique, as the difficulty is focused on one part of the operation (thorax and abdomen) and the rest of the intervention is performed with open surgery via thoracotomy or laparotomy. As the number of surgical teams performing this type of surgery is increasing, the more 'hybrid' approaches are being abandoned in favour of initiating with completely laparoscopic or laparoscopic-assisted techniques.

The laparoscopic approach is currently widely accepted, although there are still no randomised studies that compare it to the open approach. Critics of the laparoscopic approach

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argue that lymph node dissection is more extensive with the open approach, although our experience shows similar results for both techniques.<sup>10</sup> However, the number of lymph nodes to be removed in order for the procedure to be considered oncologically acceptable continues to be subject of debate and is poorly defined. The society for the study of oesophageal diseases proposed a minimum of 15 lymph nodes but 23 is the number that has been recently proposed.<sup>11</sup> Although there is no consensus on the figure, it is agreed that randomised multicentre studies are needed in order to determine a definite figure.

During the last decade, the United Kingdom reorganised its oncological departments by centralising oesophago-gastric resection surgery and providing a centre for every 1 million inhabitants. Thirty cancer networks have been created and each 'network' comprises one or two centres that provide this specialised curative care.<sup>12</sup>

An audit of interventions performed in England and Wales between 1st October 2007 and 30th September 2008 found that during this period 1895 resections for oesophageal cancer were performed with intent to cure, and 1129 of them were oesophagectomies and 766 gastrectomies. Thirty per cent of the oesophagectomies and ten per cent of the gastrectomies were performed using the minimally invasive approach.<sup>1</sup>

Who should perform this type of surgery? This type of surgery is complex and its incidence rate in the West is low. If 10 oesophagi are operated on annually, it could take up to 10 years to gain the experience of performing more than 100 operations. Evidently, when this operation is centralised, all experts and healthcare professionals with experience in treating these cancers should be made available (although in reality there are few), as they are our assets. Consequently, this determines the geographic mobility of such professionals and a flexible recruitment system allowing hospitals to hire professionals directly in accordance with the needs and/or allow professionals to work in two different hospitals. In Spain, the OPE<sup>i</sup> system and regional autonomy would make this more challenging, as the decision to recruit would lie not with the hospitals but with the different regional health systems. These are unlikely to take into account the different individual characteristics and suitability for a specific post, clearly hindering the movement of professionals from one hospital to another. This situation is worse for regions of less than 1 million inhabitants as they fall below the critical number of inhabitants required for the provision of an oesophago-gastric unit.<sup>12</sup> Therefore, theoretically they are at a disadvantage compared to other larger regions if we consider, as seems to be the case, that the quality of the results is influenced by the workload.<sup>13</sup>

In conclusion, minimally invasive surgery is feasible and it appears that its implementation, despite the absence of conclusive randomised studies, is acceptable. Considering its low incidence rate in the West and the complexity of this type of surgery, we should centralise its use in centres that serve between 1 and 1.5 million inhabitants in order to facilitate training, enable audits and optimise its outcomes. These centres should comprise of multidisciplinary teams

that bring together healthcare professionals with documented interest and experience in treating oesophago-gastric cancer.

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