Minimally invasive oesophagectomy for cancer in patients with HIV/AIDS: considerations and future directions

S Davakis¹, A Syllaos¹, A Meropoulis¹, E Kyros¹, I Vagios¹, E Mpaili¹, E Sdralis²,
A Charalabopoulos^{1,2}

¹Laiko General Hospital, National and Kapodistrian University of Athens, Athens, Greece

²Regional Oesophago-Gastric Cancer Centre, Broomfield Hospital, Chelmsford, Essex, UK

ABSTRACT

The impact of HIV/AIDS on the treatment of oesophageal neoplasms remains undefined due to a lack of adequate data. We present our experience in treating patients with HIV/AIDS who have oesophageal cancer using minimally invasive techniques and discuss important key factors during perioperative management. Two men with HIV/AIDS underwent minimally invasive oesophagectomies in our department, with adequate clinical and oncological outcomes. Minimally invasive oesophagectomy can be safe and has the well-established benefits of minimally invasive techniques, offering good perioperative results and oncological outcomes in patients with HIV/AIDS. Multimodality therapy is crucial.

KEYWORDS

HIV – AIDS – Minimally invasive surgery – Oesophageal cancer – Oesophagectomy

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CORRESPONDENCE TO

Spyridon Davakis, E: spdavakis@gmail.com

Background

The World Health Organization has reported that over 36 million people live with HIV globally.¹ The development of highly active antiretroviral medication has turned HIV/AIDS from a life-threatening disease to a more chronic pathology and life expectancy in people with HIV/AIDS has been reported to exceed average. Following that, more patients living with HIV demand surgical procedures for different types of cancer.²

The risk of oesophageal cancer in people with HIV/AIDS equals that of the general population. However, the impact of HIV/AIDS in the treatment of oesophageal neoplasms remains undefined because there is a lack of adequate data.

We present our experience in treating patients with HIV/AIDS who have oesophageal cancer using minimally invasive techniques and discuss important key factors during their perioperative management.

Case history

Two patients with HIV (62 and 65 years of age) were referred to our department with adenocarcinoma of the

oesophagogastric junction (Siewert I). Both patients presented with advanced disease, dysphagia and extensive weight loss (more than 10% total body weight loss). Patients were staged with esophagogastroduodenoscopy (OGD), endoscopic ultrasound, computed tomography (CT) of the chest/abdomen/pelvis, positron emission tomography (PET)-CT and staging laparoscopy. Both were clinically staged as T3N2M0. Laboratory examinations revealed that HIV viral load was relatively low (less than 40 copies/ml). They had three cycles of neoadjuvant chemotherapy as a first-line treatment, with epirubicin-oxaliplatin-capecitabine (EOX).

The first patient underwent totally minimally invasive two-stage oesophagectomy (laparoscopic abdomen thoracoscopic chest), and the second hybrid had minimally invasive oesophagectomy (laparoscopic abdomen open chest). No feeding jejunostomies were placed and no pyloric drainage procedures were performed. Histopathological findings were compatible with poorly differentiated oesophageal adenocarcinoma of stage ypT3N1 and ypT3N3, respectively. Longitudinal and circumferential resection margins were clear in both cases. Antiretroviral medications were in both administered enterally on the first postoperative day; in the first case via a triple-lumen nasojejunal feeding tube, which was placed for early enteral nutrition due to poor

nutritional status, and in the second case via a single-lumen nasogastric tube. The postoperative course was uneventful in both patients. Length of stay was 14 days and 8 days, respectively. Hospital stay was prolonged for the first patient because of complaints of weakness. Both patients received three cycles of adjuvant EOX chemotherapy. Patient demographics and clinical characteristics are presented in Table 1.

Discussion

Since treatment for HIV/AIDS has become more effective, disease progression has transformed from a highly lethal entity to a more chronic condition.² It has been well established that overall mortality, as well as complication-related mortality in patients with HIV/AIDS, has dramatically decreased.⁵

Dysphagia, in this cohort of patients, is the most common clinical symptom of oesophageal disease, as in our cases, with more than one-third of all patients exhibiting it. Fungal oesophagitis has been identified as the most common cause of dysphagia in patients with HIV/AIDS.⁴ This can be confirmed with examination of the oropharynx or by contrast-enhanced studies, demonstrating plaque-like lesions. Nevertheless, clinicians should have a high index of suspicion for oesophageal malignancy and possess a low threshold for upper gastrointestinal endoscopy to investigate this symptom further.

In patients with HIV/AIDS presenting with dysphagia and/or odynophagia, it is reasonable to commence a trial of antifungal therapy, since candidiasis is the most likely cause. If no improvement is seen within two weeks, endoscopy should be performed and biopsies taken as indicated. Oesophageal candidiasis may be presented with multiple plaque-like lesions. On the other hand, viral oesophagitis may produce a picture of single or multiple discrete ulcerations. Oesophageal ulceration may occur in patients with seroconversion to HIV; biopsy specimens of such ulcers have demonstrated the presence of retroviral virions.⁴

Oesophageal malignancies are non-AIDS related. Their incidence, however, it is thought to be increased in patients with HIV/AIDS, although this relationship is

confirmed by few studies. The impact of oesophageal cancer and its treatment on survival in patients with HIV/AIDS can only be answered with observational studies and extensive follow-up. We think that the improved life expectancy in these patients mandates aggressive treatment of oesophageal cancer, to ensure maximal survival for this highly challenging subgroup of patients.

As is well established, surgical resection offers good palliation as well as being beneficial in terms of survival. Hybrid or totally minimally invasive oesophagectomy offers all the advances of minimally invasive techniques in patients with HIV, such as shorter hospital stay, lower rate of perioperative complications and excellent oncological outcomes.⁵ The use of minimally invasive techniques also provides better safety for surgeons themselves, as needle-stick injuries are dramatically decreased.

Early initiation of antiretroviral therapy via the enteral route is of paramount importance in these patients; surgeons should consider the possibility of feeding jejunostomy placement intraoperatively to achieve such a result, especially in high-risk patients in whom an anastomotic leak may be anticipated. However, in both our cases, antiretroviral medications were administered enterally, either via nasogastric or nasojejunal tube and a feeding jejunostomy was not placed.

Where indicated, this cohort of patients should receive full multimodality treatment, and results are no different to those in the general population. A multidisciplinary approach, with involvement of an HIV specialist doctor from the beginning of the treatment plan, is of supreme importance; optimisation prior to surgery is commonly necessary.

Conclusion

Patients with HIV/AIDS with oesophageal cancer can present late, with advanced tumours, as dysphagia is common due to fungal oesophagitis and tends to be underestimated. These patients should be offered multimodality therapy when indicated. Oesophagectomy with chemotherapy or chemoradiotherapy should be considered the standard of care when cure is intended. Minimally invasive oesophagectomy is safe and feasible, with all the well-established benefits of

Table 1 Patients' demographics and clinical characteristics

Patient	Age (years)	Sex	Clinical stage	Neoadjuvant chemotherapy	Surgery	Length of stay (days)	Pathology	CRM	R status	Lymph-nodes (positive)	Adjuvant chemotherapy	Follow-up
#1	62	Male	T3N2M0	3 cycles EOX	Totally MIE	14	ypT3N1M0	> 1mm	R0	2/39	3 cycles EOX	Disease free 18 months postoperatively
#2	65	Male	T3N2M0	3 cycles EOX	Hybrid MIE	8	ypT3N3M0	> 1mm	R0	7/42	3 cycles EOX	Disease free 24 months postoperatively

minimally invasive techniques, offering great perioperative results and oncological outcomes. Antiretroviral medications are needed to be administrated as early as possible postoperatively in all cases and a clear plan for enteral route administration should be in place.

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