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Original article

# Surgical Outcomes of Esophageal Cancer Resection Since the Development of an Esophagogastric Tumor Board☆

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ABSTRACT

*Introduction:* Treatment of oesophageal cancer with curative intent requires a multidisciplinary approach. Neoadjuvant therapy, the radicality of resection and extension of lymphadenectomy have been associated with increased operative morbidity and mortality. The aim of this study was to assess the results of surgical treatment of oesophageal cancer since the presence of an interdisciplinary esophagogastric tumour board.

*Methods:* Patients with cancer of the oesophagus and oesophagogastric junction who underwent oesophagectomy between January 2005 and March 2012 were included in this retrospective study. Data concerning type of resection, postoperative complications, mortality and survival were analysed.

*Results:* Of the 392 patients with a diagnosis of oesophageal cancer over the study period, 100 underwent oesophagectomy. Seventy-four patients received neoadjuvant treatment. Eighty-two patients underwent transthoracic resection while a transhiatal was used in 10 patients. Colon interposition was required in 8 cases. An R0 resection was achieved in 98 patients. Anastomotic leaks developed in 15 patients, 9 were intrathoracic and 6 were cervical. Postoperative morbidity occurred in 42% of patients, and intra-hospital and 90-day mortality was 2%. Median length of hospital stay was 16 days. The respective actuarial survival at 1 and 5 years were 82% and 56%.

*Conclusions:* Surgical treatment with curative intention for oesophageal cancer is only possible in a quarter of patients diagnosed. The high morbidity rate was mainly due to intrathoracic complications.



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## Resultados de la esofagectomía por cáncer tras la creación de un Comité de Tumores Esofagogástricos

*Palabras clave:*
Cáncer de esófago
Tratamiento neoadyuvante
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Dehiscencia anastomosis Supervivencia

RESUMEN

*Introducción:* El tratamiento del cáncer de esófago con pretensión curativa requiere un planteamiento multidisciplinar. La terapia neoadyuvante, la radicalidad de la resección y la extensión de la linfadenectomía pueden incrementar la morbimortalidad postoperatoria. El objetivo de este estudio es analizar los resultados del tratamiento quirúrgico del cáncer de esófago desde la creación del Comité de Tumores Esofagogá stricos.

*Métodos:* Estudio retrospectivo (de enero de 2005 a marzo de 2012) de todos los pacientes con cáncer de esó fago o de la unión esofagogástrica a los que se les realizó una esofagectomía. Se analizaron el tipo de resección, las complicaciones postoperatorias, la mortalidad y la supervivencia.

*Resultados:* A 100 pacientes de un total de 392 diagnosticados se les realizóuna esofagectomía. En 74 casos se administrótratamiento neoadyuvante. Se realizaron 82 esofagectomías transtorá cicas en 2 o 3 campos, 10 esofagectomías transhiatales y 8 coloplastias. En 98 pacientes la resección fue R0. Se diagnosticaron 9 dehiscencias anastomóticas intratorá–cicas y 6 cervicales. La morbilidad global fue del 42% y la mortalidad hospitalaria y a los 90 días fue del 2%. La mediana de la estancia hospitalaria fue de 16 días. La supervivencia actuarial al año es del 82% y a los 5 años, del 56%.

*Conclusiones:* El tratamiento quirúrgico con intención curativa de la neoplasia de esófago solo es posible en una cuarta parte de los pacientes diagnosticados. La elevada morbilidad se debe, sobre todo, a complicaciones torácicas.



## Introduction

Esophageal cancer is a highly aggressive neoplasm whose prognosis has not significantly improved in recent years.[1] In Western countries, adenocarcinoma is now more frequent than squamous-cell carcinoma,[2] and gastroesophageal reflux and obesity are the main risk factors.[3]

Although the diagnostic and therapeutic approach to esophageal cancer should be multidisciplinary,[4] esophagectomy is the best therapeutic option in tumors that infiltrate to the submucosa.[5] Its combination with chemotherapy (CTx) and radiotherapy (RTx) as either adjuvant,[6] neoadyuvant[7,8] or radical[9] treatment complete the therapeutic arsenal.

Esophageal cancer resection is technically complex, requires a large amount of human and material resources, and is associated with a high number of complications.[10–12] There is a prevailing opinion that the best results are obtained both in postoperative morbi-mortality[4,13,14] and in long-term survival in centers with a high volume of patients.[15] The most appropriate surgical approach for performing esophageal resection (limited transhiatal [TH] or transthoracic [TT] with *en bloc* lymphadenectomy) is controversial,[16] although it seems clear that 5-year disease-free survival was significantly better with the TT esophagectomy in patients whose number of affected lymph nodes was limited.[17]

Currently, the treatment of esophageal cancer is the same for the 2 histological types of the tumor, although recent papers[1] seem to show a better 5-year prognosis of esophageal resection in adenocarcinoma than in squamous-cell carcinoma.

The aim of this study was to analyze the results of a consecutive series of esophagectomies due to neoplasm that were done in the Esophagogastric Surgery Unit at the Hospital Universitari de Bellvitge since the creation of the Esophagogastric Tumor Board (EGTB).

## Patients and Methods

We analyzed esophagectomy results (morbidity, hospital mortality, 90-day mortality and survival) in patients with cancer of the esophagus or the esophagogastric junction (EGJ) Siewert I from January 2005 (date of creation of the EGTB) until March 2012. EGJ tumors were classified topographically according to the Siewert classification.[18]

### *Treatment Protocol*

The EGTB protocol for our center is shown in Fig. 1. The extension study was performed with computed tomography (CT), endoscopic ultrasound and positron emission tomography (PET). The classification of the tumors was established according to the seventh edition of the American Joint Committee on Cancer (AJCC) Cancer Staging Manual.[19]

All patients underwent pulmonary function tests (PFT) to study the extension of the disease. Patients with precarinal tumors and a maximum forced expiratory volume per second ($FEV_1$) <75% were not candidates for surgical treatment. In all other cases, our approach was as follows: T1/T2N0 underwent surgery; T1/T2N1 and T3N0/N1 received neoadjuvant treatment of CTx and RTx with intravenous cisplatin at 75 mg/m$^2$/day (day