

ESOPHAGEAL CANCER SURGICAL TREATMENT IN BRAZILIAN NATIONAL CANCER INSTITUTE: 25 YEARS RESULTS

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Introduction

Esophageal cancer is the 8th most common cancer in the world and one of the most common and lethal neoplasm in Brazil (Figure 1). It is a lethal disease, responsible for almost 400.000 deaths by year. Diagnose is often made in advanced stages, resulting in unfavorable prognosis. In the 1940's, surgical resection became the gold standard treatment, with 15 to 40% global cure index. Since the publication of the CROSS trial in 2012, a Dutch randomized multicenter phase III trial, neoadjuvant chemoradiation became the standard of care in many countries and also in our institution, but the overall survival rates are still worse than the observed in other gastrointestinal malignancies. The aim of this study is to evaluate the surgical and oncological outcomes of esophageal cancer surgical treatment at the Brazilian National Cancer Institute.

Method

206 medical records of patients with esophageal cancer, treated with surgical resection (esophagectomy), between January 1990 and December 2015, were retrospectively studied.

Results

The clinical data regarding the esophageal cancer treatment in our institution is summarized in Table 1. There were predominant male patients with a mean age of 58 years old (27 – 78). Most patients have a history of tobacco and alcohol use. The tumor histological type was roughly divided between squamous cell carcinoma and adenocarcinoma. Most tumors were located in the middle and lower esophagus (74%) and about 25% in the esophagogastric junction. The details of surgical procedures area summarized in Table 2 and 3. The treatment was upfront surgery in most cases (85%). The most common surgical approach was a transthoracic route (66%) and the neck was most prevalent site for esophagogastric anastomosis (Figures 2 and 3). A minimally invasive approach was employed in about 10% of the patients. The mean surgical time was 354 minutes (180 – 720). The mean ICU (Intensive Care Unit) stay was 9 days and mean hospitalization time was 27 days (8-166). Most common surgical complications were anastomotic leak (25,5%) and pneumonia (20%), with a surgical morbidity rate of 61,8%. Surgical mortality rate was 14%, and a 8% 30-day mortality. The mean lymph node count was 18 (2-62). The mean 2-year overall survival was 44,3 months.

Discussion

Esophageal cancer is an aggressive neoplasm with early dissemination and complex surgical treatment. Besides the recent advancements, the optimal treatment protocol is still matter of controversy. However, esophagectomy remains the standard treatment for clinically fit patients with resectable tumors. The surgical morbidity and mortality are declining as a result of rigorous patients selection, surgical team expertise and adequate perioperative and postoperative care.

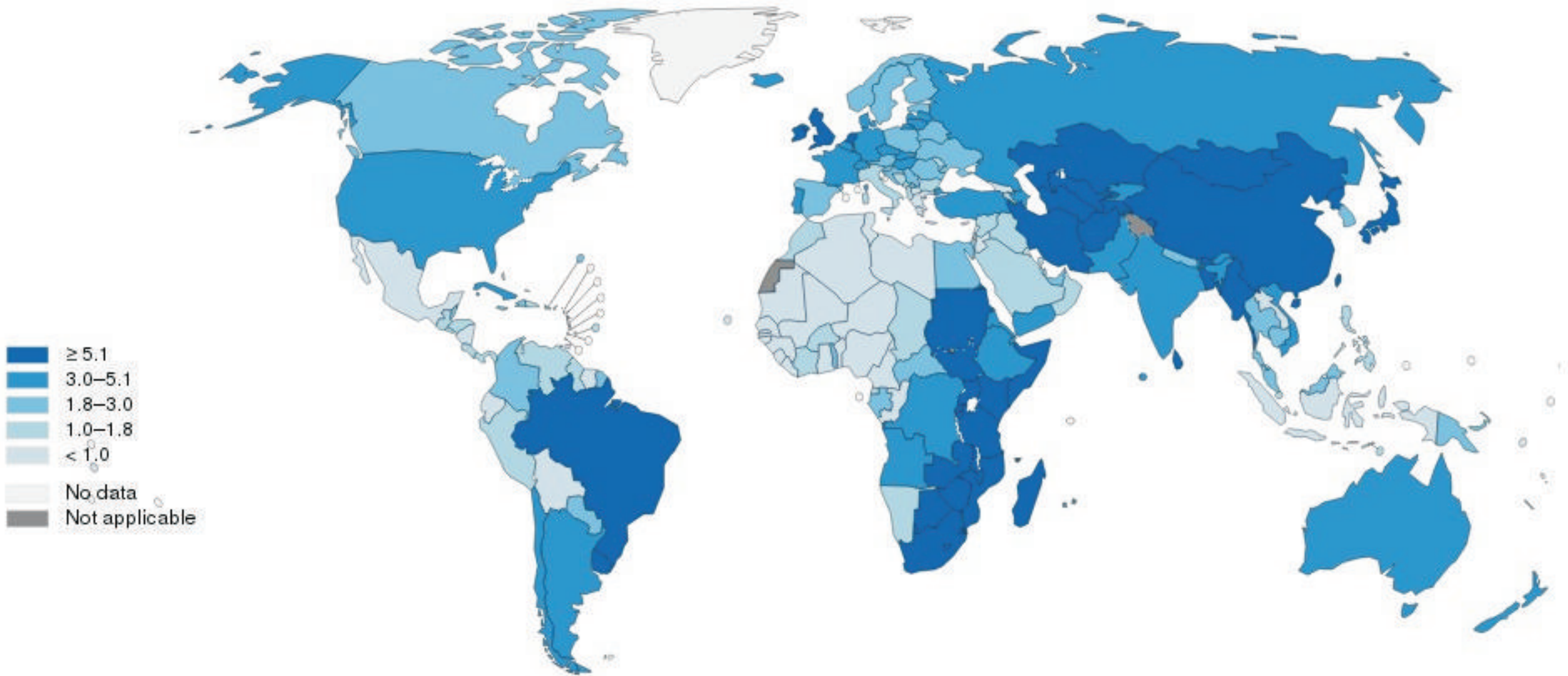


Figure 1 – Esophageal Cancer Incidence in the world. IARC – World Cancer Report 2016

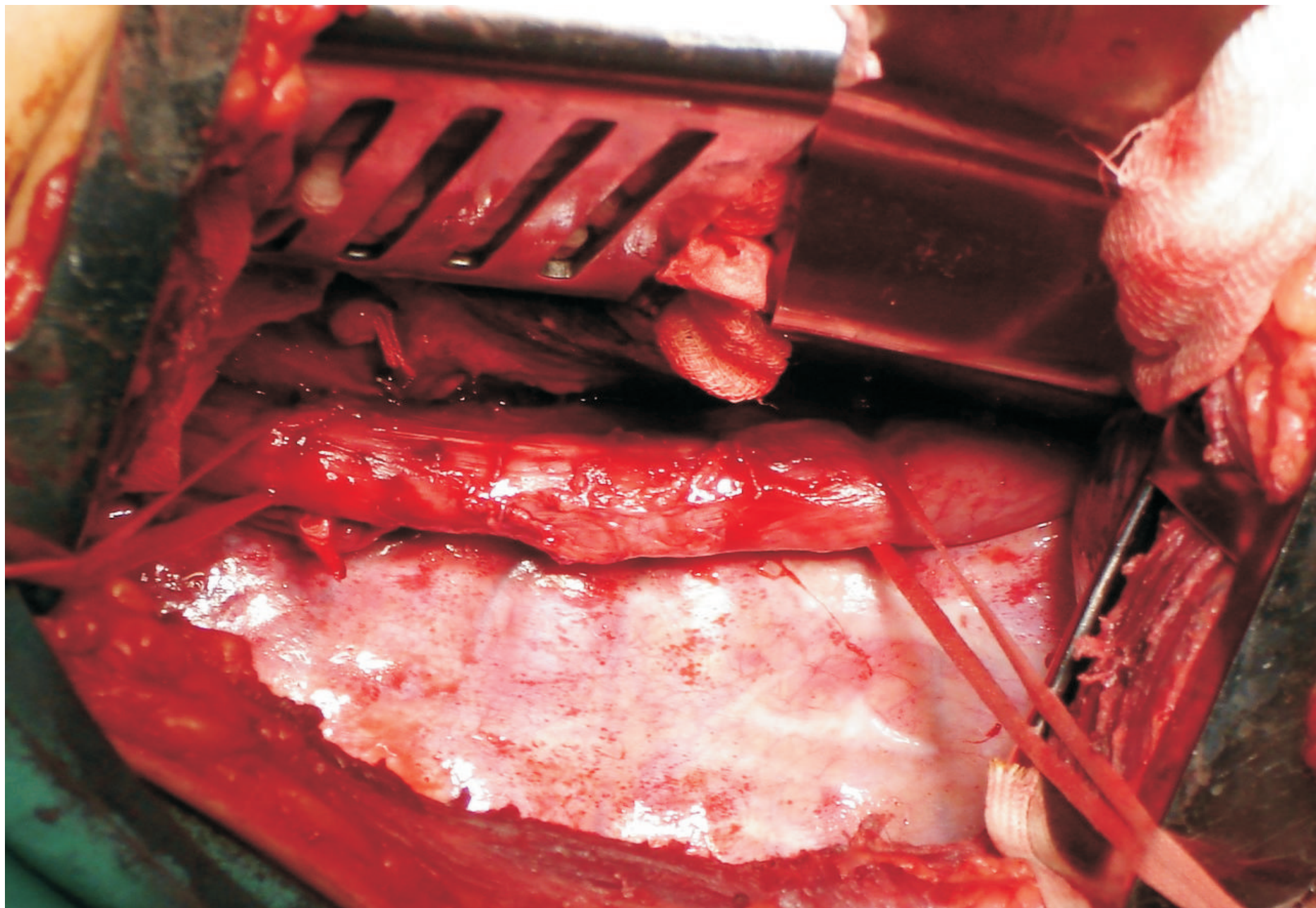


Figure 2 – Esophageal Cancer Incidence in the world. IARC – World Cancer Report 2016

Table 1 – Patient clinical characteristics (N=206)

Gender	
Male	163 (79%)
Female	43 (21%)
Age (years)	
Mean	58
Range	27 - 78
Tobacco Use	
165 (80%)	
Alcohol Use	
113 (55%)	
ECOG PS	
0	43 (21%)
1	154 (75%)
2	9 (4%)
BMI (kg/m2)	
Mean	23,8
Range	14 – 50,8
Albumin (g/dl)	
Mean	4,3
Range	3 – 5,2
Tumor Histology (%)	
SCC	108 (52%)
Adeno	96 (46%)
Other	4 (2%)
Tumor location (%)	
Upper	4 (2%)
Middle	74(36%)
Lower	78 (38%)
EGJ	49 (24%)
Clinical Staging	
IA	20 (10%)
IB	26 (13%)
IIA	68 (33%)
IB	26 (13%)
IIA	68 (33%)
IIB	35 (17%)
IIIA	37 (18%)
IIIB	14 (7,5%)
IV	3 (1,5%)
Primary Treatment	
Neoadjuvant	31(15%)
CT only	8 (4%)
CRT	23(11%)
Surgery	
175 (85%)	
RXT total dose (Gy)	
Mean	46,7
Range	30 – 70

Table 2 – Operative procedures

Surgical Approach	
Transthoracic	70 (34%)
Transhiatal	136 (66%)
Minimally Invasive technique	
20 (10%)	
Operative time (min)	
Mean	354
Range	180 – 720
Perioperative Transfusion	
29 (14%)	
ICU stay (days)	
Mean	9,3
Range	2 – 58
Postoperative complications	
Respiratory	24 (83%)
Anastomotic dehiscence	14 (48%)
Anastomotic dehiscence	10 (34%)
Gastric conduit necrosis	2 (7%)
Reoperation (%)	
5 (17%)	
Hospital Stay (days)	
Mean	27
Range	8 - 166
Postoperative mortality	
28 (14%)	
30-day mortality (%)	
17 (8%)	

Table 3 – Histopathological results

Lymph node count (n)	
Mean	18
Range	2-62
Pathological Stage (%)	
IA	20 (7%)
IB	19 (10%)
IIA	45 (22%)
IIB	37 (18%)
IIIA	20 (10%)
IIIB	40 (20%)
IIIC	6 (3%)
IV	19 (10%)

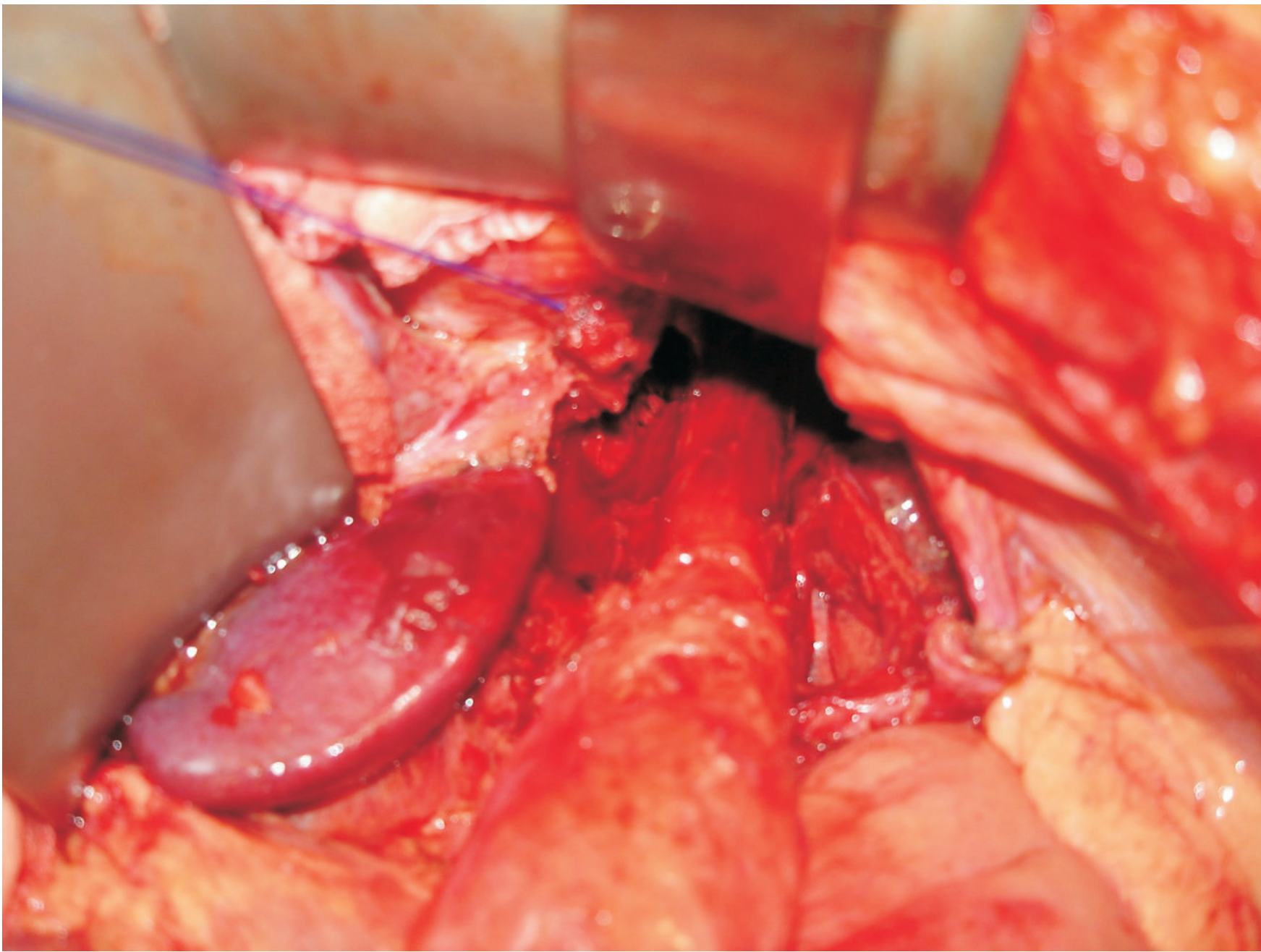


Figure 3 – Transthoracic approach

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