

COLONIC INTERPOSITION FOR ESOPHAGEAL REPLACEMENT AFTER ESOPHAGECTOMY FOR CANCER – A SINGLE CENTER EXPERIENCE

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Background and Purpose

The method of choice for esophageal replacement after esophagectomy for cancer is the gastric tube. However when the stomach is not available a colon graft interposition can be performed. The purpose of this retrospective study was to review our experience with colon interposition following esophagectomy for cancer and access the surgical outcomes and survival.

Methods

We reviewed clinical data and long-term survival from 23 consecutive patients who underwent colon interposition after esophagectomy for cancer between January 1990 and December 2017 at the Brazilian National Cancer Institute. Outcomes were compared with international publications on colon interposition.

Results

There were 18 (78%) males and 5 (22%) females with a mean age of 56 years. In respect to histological subtype, there were 3 (13%) squamous cell carcinoma and 20 (87%) adenocarcinoma. Preoperatively, 3 (13%) patients received radiochemotherapy and 2 (9%) chemotherapy (Table 1). Transthoracic esophagectomy and transhiatal esophagectomy were performed in 3 (13%) and 20 (87%) patients, respectively. The median operative time was 389 min (range 240-660 min) and 6 (26%) patients required blood transfusion. The stomach was unavailable for reconstruction due to prior gastric operations or perioperative ischemia in 3 (13%) patients and had neoplastic involvement in 20 cases. Colon conduits consisted of left colon segments in 13 (57%) patients, right colon segments in 3 (13%) (Figure 1) and transverse colon in 7 (30%). Three (13%) patients underwent reconstruction by a retrosternal route and a posterior mediastinal route was applied to 20 (87%) patients (Table 2). We performed hand-sewn anastomosis in the neck in all cases. The overall surgical morbidity was 80%, most commonly pulmonary complications (39%). Anastomotic leakage occurred in 11 patients (48%). Five graft necrosis were observed and five reoperations were necessary (Table 3). In-hospital mortality was 13% (3 patients). The 5-year overall survival rate was 30.4% (Figure 2).

Conclusions

Our results of short-term outcomes and survival for colonic interposition after esophagectomy for cancer are in line with the literature and demonstrate that this type of reconstruction is feasible and, despite not having negligible morbimortality, appears to be a valuable alternative for the challenging situation where the stomach is not available.

Table 1 – Demographics and Staging

Demographic	Number
Age (Years)	56 +/- 30-23
Sex - Male	18 (78%)
- Female	5 (22%)
Tumor location	
- Upper Thoracic	0
- Middle Thoracic	2 (9%)
- Lower Thoracic	8 (35%)
- EGJ	13 (56%)
Stage (Pathologic)	
- IIA	5 (22%)
- IIB	2 (9%)
- IIIA	3 (13%)
- IIIB	11 (48%)
- IIIC	1 (4%)
- IV	1 (4%)
Lymph node metastasis involved	14 (61%)
Histopathology	
- Adenocarcinoma	20 (87%)
- Squamous cell carcinoma	3 (13%)
Neoadjuvant therapy	
- with chemotherapy	2 (9%)
- with chemoradiotherapy	3 (13%)
- without	18 (78%)

Table 2 – Perioperative Results

Parameter	Number	Median	Range
Types of colon graft		-	-
- Ileocolon	3 (13%)		
- Ascending-transverse	7 (30%)		
- Left Colon	13 (57%)		
Route of reconstruction		-	-
- Retrosternal	3 (13%)		
- Posterior mediastinum	20 (87%)		
Reasons for use colon		-	-
- Previous gastrectomy	1 (4%)		
- Oncological margins	20 (87%)		
- Gastric tube ischemia	2 (9%)		
Isoperistaltic	9 (39%)		
Operation Time (min)	-	389	240-660
Transfusion Requirements	6 (26%)	-	-
Intensive care unit stay (days)	-	5	2-42

Table 3 – Postoperative Morbidity and Mortality

Complication	Number of patients
Mortality in 30 days	3 (13%)
Overall Morbidity	19 (83%)
Anastomotic leakage	11 (48%)
Pneumonia	6 (26%)
Graft necrosis	5 (22%)
Bleeding	0 (0%)
Vocal cord paralysis	1 (4%)
Re-operation	5 (22%)
Others	4 (17%)

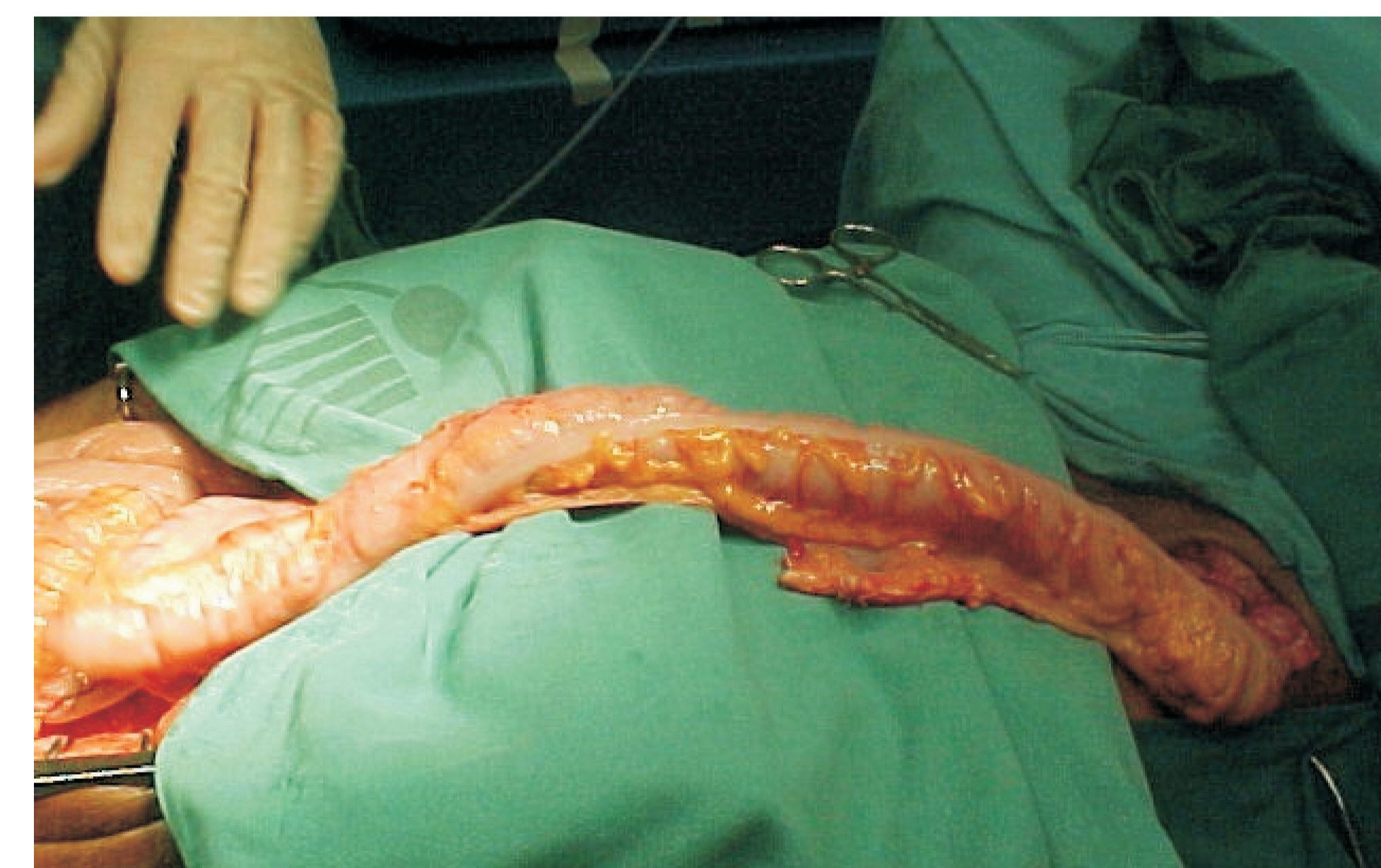


Figure 1 – Right colon graft

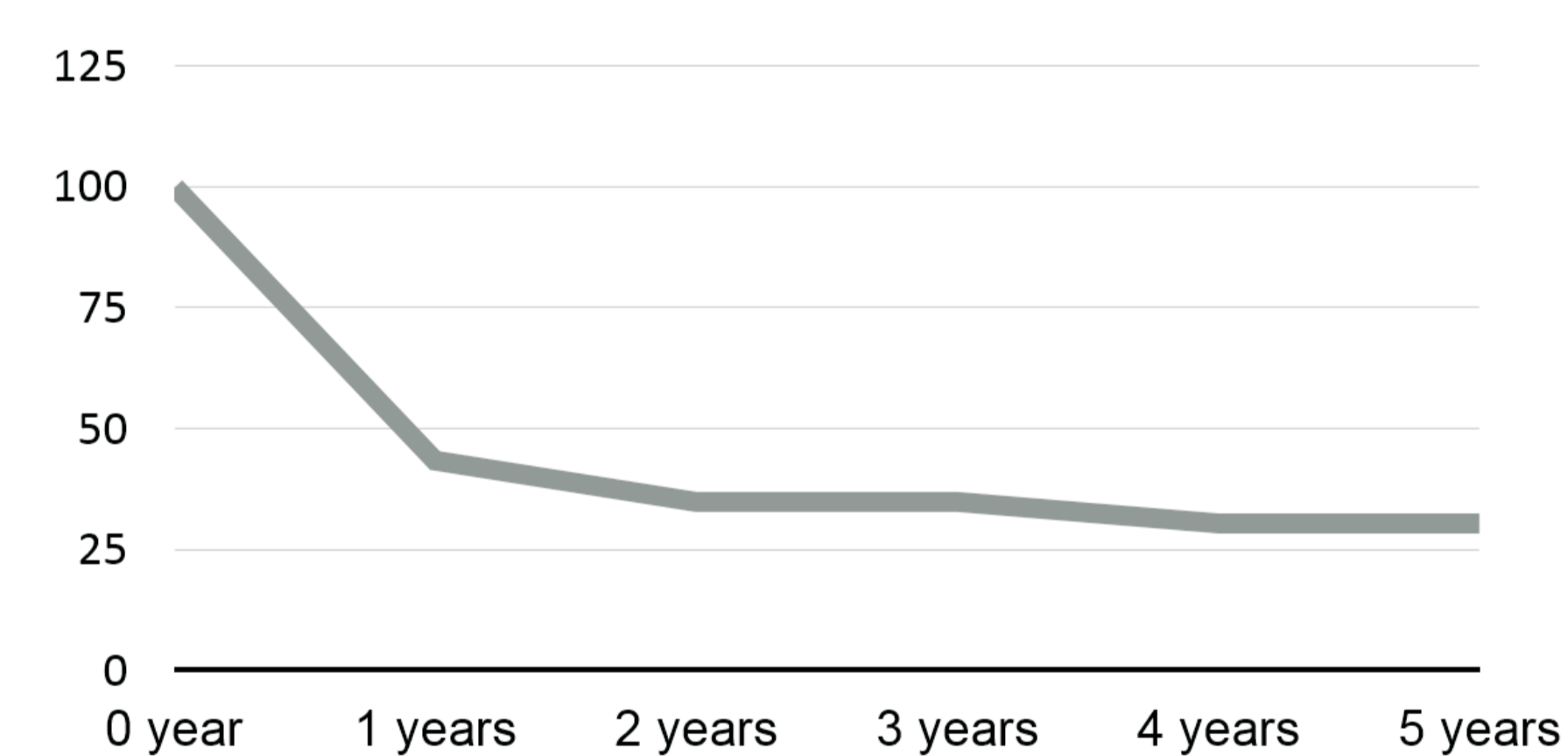


Figure 2 – Overall Survival Curve

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