

RESEARCH ARTICLE

Therapeutic Option in Patients over 60 Years with Esophageal and Esocardial Cancer

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Background: Treatment of esophageal and esocardial cancer in patients over 60 years involves a particular management. Considering the comorbidities specific to this category of patients, recent data from the literature indicate an increased incidence of mortality and morbidity following therapy.

Material and method: We retrospectively studied a group of 55 patients admitted to the Surgical Clinic I of the County Emergency Clinical Hospital Tîrgu Mureș, in the January 1st, 2007 – December 31st, 2011 period, diagnosed with esophageal and esocardial cancer. Patients were divided into two groups: group I under the age of 60 years, and group II over this age. Inclusion criteria were age, diagnosis (tumor location), and we followed a series of parameters: demographics, type of surgery, the biological profile of patients, immediate postoperative morbidity and mortality.

Results: No statistically significant differences were observed in terms of demographics: gender ($p = 0.78$), area of origin ($p = 0.69$). The number of hospitalization days ($p = 0.20$) was influenced by the type of surgery, as well as pre- and postoperative comorbidities. Immediate postoperative mortality was 16.56%, the differences between the two groups was not statistically significant ($p = 0.58$). Parameters with statistical significance were found to be: age ($p < 0.0001$), tumor location, type of surgery ($p = 0.0031$) and radical versus palliative surgery ($p = 0.03$).

Conclusions: Therapeutic attitude in patients over 60 years should be correlated with specific particularities to this category. Selection of patients for surgery and type of surgery is dictated by the patient's condition and quantified by anesthesia and surgery team.

Keywords: esophageal, esocardial, cancer, management

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Introduction

The increasing prevalence of esophageal and esocardial cancer represents a major health problem worldwide [1,2]. Given the higher incidence of esophageal cancer in the 7th and 8th decade of life, the treatment of elderly patients involves a particular management due to age and associated comorbidities specific to this category of patients [2,3,4].

Ellis FH Jr et al. do not consider age a limiting factor in the aggressive management of elderly patients (aged over 70 years) [5]. Fogh et al. report no significant differences in terms of mortality and morbidity in elderly patients [6]. Moreover, Dhungel et al. considered that advanced age, along with other significant comorbidities (diabetes, stroke, peripheral vascular pathology), is a predictor of morbidity and mortality post-esophagectomy [7]. Wright et al. studied morbidity and mortality following esophagectomy on a lot of 2315 patients operated for esophageal cancer, and identified age (75 vs. 55 years), along with other comorbidities (diabetes mellitus, hypertension, smoking, coronary artery disease, etc.), as a predictor [8]. In contrast, Ruola A et al. suggest that age itself should not be an exclusion criterion for esophagectomy [9].

Therapeutic options for esophageal and esocardial cancer have changed in the last 10 years [10]. The identification of risk factors, the role of surgery in the multimodal treatment of this disease, as well as the proper selection of

patients [11] continue to represent challenges in choosing the proper therapeutic strategy, correlating the risk-benefit of each individual.

The objectives of our study were to evaluate the surgical options, the characteristics of immediate postoperative morbidity and mortality and the histology patterns of a group of patients diagnosed with esophageal and/or esocardial cancer.

Methods

We ran a retrospective observational study on a sample of 55 patients, hospitalized in the Surgery Clinic I of the County Emergency Clinical Hospital Tîrgu Mureș, between January 1st, 2007 – December 31st, 2011, diagnosed with esophageal and/or esocardial cancer (Siewert type I). Based on the clinical and paraclinical examination data obtained from the clinical observation sheets and postoperative protocols, patients were divided into two groups: group I under the age of 60 years, and group II over this age.

Inclusion criteria were the following:

- Patients hospitalized in the Surgical Clinic I of the County Emergency Clinical Hospital Tîrgu Mureș in the January 1st, 2007 – December 31st, 2011 period;
- Adult age (over 18 years);
- Admission diagnosis confirmed (esophageal cancer and/or esocardial Siewert type I).

Exclusion criteria were:

- patients hospitalized with esophageal or esocardial cancer, who were not operated;

Table I. General characteristics

	Lot I (n = 23) <60 years	Lot II (n = 32) >60 years	p value
Age	54 ± 4.9	68.8 ± 5.7	<0.0001*
Sex			
Male	20 (86.96%)	27 (84.38%)	
Female	3 (13.04%)	5 (15.63%)	
Overall mortality (16.56% from n = 55)	5 (21.74%)	4 (12.50%)	0.58**
BMI	21.7±3.9	22.9±3.7	0.2*
Demographic data			
Urban	8 (34.78%)	14 (43.75%)	0.69**
Rural	15 (78.26%)	18 (56.25%)	
No. of days of hospitalization	21 (7-52)	15 (7-41)	0.20***
No. of days of ICU	6 (1-13)	8 (1-32)	0.5***
Onset of symptoms (weeks)	12 (1-24)	8 (1-40)	0.51***
Presence of dysphagia (dominant symptom)	16 (69.57%)	22 (68.75%)	0.8****
Major comorbidities	10 (43.48%)	24 (75%)	0.03****
Postoperative morbidity	5 (21.74%)	17 (53.13%)	0.038****

* t Student test, ** chi² test, *** Mann-Whitney test, **** comparison of proportions

- b) patients with benign tumors;
- c) patients with postcaustic stenosis;
- d) patients under the age of 18 years.

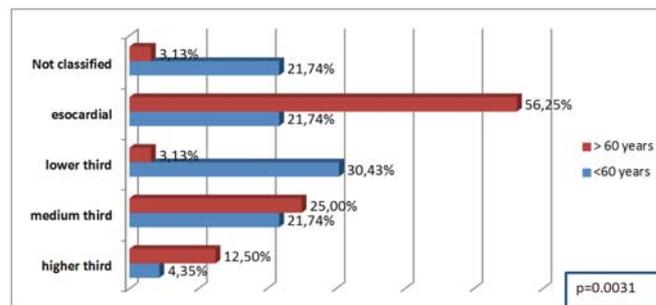
Statistical analysis was performed using MedCalc Software (Version 12.3.0 bvba, Mariakerke, Belgium). Student's t test was used to assess the differences in continuous variables (expressed as mean ± SD) and Mann Whitney test for nonparametric variables (expressed as median and range) while the χ^2 test was used for category variables (expressed as no (%)). We interpreted all the tests we have performed to the threshold of significance $p = 0.05$ and statistical significance was considered for p-values less than the threshold value of significance.

Results

On the studied groups, no statistically significant differences were observed regarding sex. Males were predominantly affected (86.86% and 84.38%) (Table I). Overall mortality was 16.56% without obvious difference between the two groups (Table I). There was no difference between the mean values of BMI ($p = 0.2$). There was no evidence of significant difference in the area of origin, with rural area of origin being predominant (78.26% and 56.25%).

Table II. Type of surgery

Type of surgery	Lot I (n = 23) <60 years	Lot II (n = 32) >60 years	p value
With radical intent			
Double cervical-abdominal approach	9 (39.13%)	5 (15.63%)	
Double thoraco-abdominal approach	3 (13.04%)	4 (12.50%)	
Triple approach	1 (4.35%)	1 (3.13%)	$p = 0.03$ (chi ²)
Palliative			
Jejunostomy	5 (21.74%)	14 (43.75%)	
Gastrostomy	3 (13.04%)	4 (12.50%)	
Exploratory laparotomy	2 (8.70%)	4 (12.50%)	

**Fig. 1. Location of esophageal and esocardial cancer**

Regarding the number of days of hospitalization and number of days in the ICU, the differences were not statistically significant in the studied groups, although the group over 60 years the number of days of hospitalization in the ICU was slightly higher. The onset of symptoms, between 8–12 months, was characteristic of both groups, as well as the presence of dysphagia as a dominant symptom. Both major comorbidities (diabetes mellitus, history of stroke, heart disease, lung disease) and postoperative morbidity (suppurations the wound, respiratory problems, anastomosis fistula, difficulty in resuming alimentation) presented statistically significant differences in the studied groups (Table I).

In the group over 60 years the tumor was predominantly located esocardially and in the middle third of the esophagus (56.25% and 25%, respectively), compared to the group under 60 years where the predominant location was in the lower third (30.43%), the difference being statistically significant ($p = 0.0031$) (Figure 1).

In the group over 60 years, palliative interventions dominated the therapeutic intent, there was a statistically significant difference regarding surgical management of the two groups (Table II).

Regarding the histological characteristics of the tumors and T and N classification, there were no statistically significant differences noted between the two groups (Table III).

Table III. Tumor characteristics of esophageal and esocardial cancer

Tumor characteristics	Lot I (n = 23) <60 years	Lot II (n = 32) >60 years	p value
Adenocarcinoma	7 (30.43%)	15 (46.88%)	0.3
Carcinoma	16 (69.57%)	17 (53.13%)	0.3
T1b	0	1 (3.13%)	0.8
T2	7 (30.43%)	4 (12.50%)	0.19
T3	11 (47.83%)	18 (56.23%)	0.73
T4a	3 (13.04%)	5 (15.63%)	0.9
T4b	2 (8.70%)	4 (12.50%)	0.9
N0	4 (17.39%)	3 (9.38%)	0.6
N1	11 (47.83%)	17 (53.13%)	0.9
N2	6 (26.09%)	7 (21.88%)	0.9
N3	2 (8.70%)	5 (15.63%)	0.7

* comparison of proportions

Table IV. Type of surgery: radical vs. palliative

Type of intervention	Lot I (n = 23) <60 years		Lot II (n = 32) >60 years	
	n	%	n	%
Radical	13	56.52%	10	31.25%
Palliative	10	43.48%	22	68.75%

Discussion

Therapeutic options with acceptable radical intention in front of a patient with esophageal and/or esogastric (Siewert type I) cancer are in accordance with age-specific comorbidities [12]. Palliative interventions predominated in the age group over 60 years (68.75%), while in the group under 60 years radical interventions represented the first intention (56.52%) (Table IV).

Our results suggest that tumor characteristics (histologic type) do not influence the therapeutic decision, radical intent being primordial in the case of patients with esophageal cancer.

We found that the tumors were located more commonly in the distal third of the esophagus in group II, while in group I they were located predominantly in the middle third (81.25% and 52.17%, $p = 0.0031$), similarly to the findings of Dreilich M et al. [13]. Full evaluation of preoperative comorbidities is essential in choosing the type of surgery, considering the anesthetic risk correlated with postoperative evolution [14].

Comorbidities (cardio-pulmonary, diabetes, etc.) were more common in group II, which influence the type of intervention, representing contraindication to extensive surgery in the chest and performing a minimum surgical act (jejunostomy, gastrostomy).

Postoperative evolution of patients is influenced to a greater extent by the existence of comorbidities, while immediate postoperative mortality is not higher following radical surgery, compared with palliative surgery.

Conclusions

Our results suggest that age, as a singular criterion, should not be an impediment in the selection of patients for a radical intervention.

Surgical interventions for esophageal cancer and esocardial are the prerogative of experienced surgical and anesthetic teams, preoperative and postoperative care is often as important as the type of surgical procedure chosen.

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