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Short Report

Chemotherapy versus self-expanding metal stent as primary treatment of severe dysphagia from unresectable oesophageal or gastro-oesophageal junction cancer

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ABSTRACT

Objective: To compare chemotherapy first (group 1) versus self-expanding metal stent first (group 2) for the management of malignant dysphagia in unresectable oesophageal or gastro-oesophageal junction cancer.
Methods: Patients from two university hospitals with severe malignant dysphagia (dysphagia score ≥ 2) uneligible for surgery or radiochemotherapy were evaluated retrospectively.
Results: Forty-two patients were included in group 1, and 29 in group 2. After 4 weeks, dysphagia scores improved by at least 1 point in 67% of patients in group 1 versus 93% in group 2 ($p = 0.01$); 48% of patients in group 1 were able to eat solid food versus 68% in group 2 ($p = 0.054$). In group 1, a self-expanding metal stent was secondarily placed in 18 patients (42.9%), whereas in group 2 dysphagia required a second self-expanding metal stent placement in 33.3% of patients.
Conclusion: Chemotherapy as the first treatment may be a valid option, avoiding self-expanding metal stent insertion in half of the patients.

1. Introduction

Oesophageal cancer is the eighth most common cancer worldwide [1]. The prognosis is poor, with a five-year survival rate of 9% according to data from the European registries [2]. About 50% of patients have stage IV disease at presentation [3] and the therapeutic options are largely limited to symptom palliation, with a focus on dysphagia.

Endoscopic placement of a covered, self-expanding metal stent (SEMS) is considered to be the mainstay of the palliation of unresectable oesophageal cancer. SEMS are highly effective in rapidly improving dysphagia scores with immediate success rates in the range of 90–100% [4]. The reported complication rates are, however, troubling, with a procedural mortality of about 3% [5]. Radiation alone or radiochemotherapy are other therapeutic options. However, due to a poor condition, comorbidities, or previous irradiation some patients may not be eligible for these treatments. Symptoms can also be improved by chemotherapy, with phase II studies demonstrating a dysphagia improvement in 72–90% of patients after two to six weeks of treatment [6,7].

Our aim was to compare two strategies of malignant dysphagia management in unresectable oesophageal or gastro-oesophageal junction cancer: chemotherapy first or SEMS first. The primary endpoint was the improvement of dysphagia scores after 14 and 28 days.

2. Patients and methods

2.1. Population

This study included all consecutive patients with malignant dysphagia and previously untreated, unresectable oesophageal or gastro-oesophageal cancer taken in charge by one of two French university hospitals (the Ambroise Paré Hospital or the European George Pompidou Hospital) between January 2000 and December 2005. Patients were not eligible for immediate, concomitant radiochemotherapy or surgery because of the extent of disease, poor general status, or previous locoregional irradiation.

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Therapeutic options were discussed during multidisciplinary meetings. Data were collected prospectively but were reviewed retrospectively. Dysphagia was graded on a standard five-point scale: grade 0, no dysphagia; grade 1, some solid food; grade 2, swallow liquids only; grade 3, difficulty with liquids and saliva; grade 4, complete dysphagia (Atkinson scale) [8]. Only patients with an initial dysphagia score superior or equal to 2 were included.

2.2. Chemotherapy

Most patients received a 5-FU and cisplatin combination: 50 mg/m^2 cisplatin, 400 mg/m^2 folinic acid, and 400 mg/m^2 5-FU bolus followed by 2400 mg/m^2 continuous infusion for 46 h (LV5FU2-P regimen) [9]. The other regimens used were the FOLFOX, FOLFIRI and HLFP (hydroxyurea, leucovorin, 5-FU, and cisplatin) regimens [10–12].

2.3. SEMS placement

Stent placement was performed with endoscopic and fluoroscopic monitoring under general anaesthesia. Various commercially available SEMS were used. The most frequently used stent was the partially covered Ultraflex stent (Boston Scientific, Watertown, MA). Major complications were defined as life-threatening adverse events, such as perforation, bleeding, aspiration pneumonia or fever and oesophageal-respiratory fistula formation, or those that generated additional invasive procedures, such as food-bolus obstruction, stent migration, or tumour overgrowth. Early complications were defined as those that occurred within seven days of stent placement.

2.4. Statistical analysis

Statistical analyses were performed using Graphpad (version 6) software. Results are expressed as percentage, or median and range for continuous variables. Each result was analysed by paired *t*-test, chi-squared test, or Fisher's test as appropriate. Statistical significance was considered when $p < 0.05$. Overall survival was expressed in median months of survival and was estimated using the Kaplan–Meier method.

3. Results

3.1. Patient characteristics

The clinical and tumour characteristics of the 71 patients included are shown in Table 1. Patient characteristics were similar in both groups. Forty-two patients were treated by chemotherapy first (group 1), while 29 patients were treated by SEMS insertion first (group 2). One patient in group 2 was lost to follow-up and was not included in the efficacy analysis.

Table 1
Baseline clinical and tumour characteristics.

	Group 1 (chemotherapy first)	Group 2 (self-expanding metal stent first)	*p* value
	N (%)	*N* (%)	
Patients	42 (59.2)	29 (40.8)	–
Histology			0.594
Squamous-cell carcinoma	27 (64.3)	21 (72.4)	
Adenocarcinoma	14 (33.3)	8 (27.6)	
Other	1 (2.4)	0 (0)	
Gender			
Male	31 (73.8)	16 (55.2)	0.103
Age			
Median	64	65	0.887
Range	43–78	31–100	
Alcohol	20 (52.4)	12 (41.4)	0.354
Smoking	30 (71.4)	19 (62.5)	0.456
GERD/Barrett's oesophagus	9 (21.4)	2 (6.9)	0.133
WHO performance status			0.324
0	6 (14.3)	3 (10.4)	
1	22 (53.4)	10 (34.5)	
2	12 (28.6)	13 (44.8)	
3	2 (4.7)	3 (10.3)	
Weight loss			
<10% over 6 months	18 (42.9)	6 (20.7)	0.052
Body mass index, median, kg/m^2	21.4	21	0.491
Dysphagia scale			0.522
2	13 (31.0)	6 (20.7)	
3	20 (47.6)	14 (48.3)	
4	9 (21.4)	9 (31.0)	
Tumour location			0.997
Upper third	8 (19.0)	6 (20.7)	
Mean third	13 (31.0)	9 (31.0)	
Lower third	14 (33.3)	9 (31.0)	
Gastro-oesophageal junction	7 (16.7)	5 (17.3)	
No tumour overcome by endoscopy	16 (38.1)	9 (31.0)	0.54
Tumour stage			0.224
Localised	4 (9.5)	5 (17.2)	
Locally advanced	12 (28.6)	12 (41.4)	
Metastatic	26 (61.9)	12 (41.4)	
T stage			0.07
T2	3 (7.1)	0 (0)	
T3	20 (47.6)	12 (41.4)	
T4	7 (16.7)	12 (41.4)	
Tx	12 (28.6)	5 (17.2)	
Liver metastasis	21 (50.0)	8 (27.3)	0.202