ORIGINAL RESEARCH

A Study Comparing Endoscopic Ultrasound (EUS) and Computed Tomography (CT) in Staging Oesophageal Cancer and their Role in Clinical Decision Making

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Abstract

Background and Aim Computed tomography (CT) and endoscopic ultrasound (EUS) are part of the regular preoperative staging protocol in oesophageal cancer. At present, EUS is increasingly being used for preoperative locoregional staging of oesophageal cancer. The aim of this study is to compare EUS and CT findings and their role in clinical decision making.
Methods The CT staging of 30 patients with oesophageal carcinoma was compared with EUS. This is a single centre-based study, and the EUS was carried out by a single operator.
Results The mean age was 58.2 years. On EUS, one (3.3%), five (16.7%), 16(53.3%) and eight (26.7%) patients had T1, T2, T3 and T4 tumours, respectively, compared with CT which showed 12(40%), nine (30%) and seven (23.3%) patients with T2, T3 and T4 tumours. On CT, two (6.7%) were shown as no tumour (T0). EUS revealed lymph node involvement in 25 (83.3%) patients compared with CT which indicated lymph node involvement in seven (23.3%) patients. On EUS, coeliac node involvement was shown in four (13.3%) patients (M1). The TNM staging of CT and EUS were comparable in nine (30%) patients. EUS staging revealed a more advanced stage of oesophageal cancer in 17 (56.7%) patients. Preoperative EUS staging changed the decision of management in 15 (50%) patients ($P<0.005$).

Conclusions EUS staging revealed a more advanced stage of cancer in the majority of patients. It appears to be far more superior in detecting lymph node involvement compared with CT. Therefore, EUS may have a significant impact on deciding the treatment modality of a patient with oesophageal carcinoma.

Keywords endoscopic ultrasound · staging oesophageal carcinoma · CT scanning

Introduction

Oesophageal cancer is the eighth most common malignancy worldwide and third amongst gastrointestinal malignancies [1, 2]. It is the fourth common malignancy in the developing world, and recently, some of the Asian countries have also reported a rise in its incidence [3]. The overall 5-year survival varies between 5–10% [4].

The prognosis for patients with oesophageal cancer is closely related to the stage of the disease at the time of diagnosis. Potentially curative radical surgery alone or in combination with other modalities carry a significant risk to the patient, and therefore, the rational selection of patients who have some prospect of cure from surgical treatment is crucial [5].

Clinical staging of oesophageal carcinoma is usually accomplished by using a combination of physical examination and imaging. The common imaging modalities currently used are computed tomography (CT), magnetic resonance imaging, endoscopic ultrasound (EUS) and positron emission tomography [6].

In the last decade, EUS has evolved as an important tool and has become a very useful technique for local staging of oesophageal cancer. This technique enables us to evaluate

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