

RESEARCH ARTICLE

Late Stage and Grave Prognosis of Esophageal Cancer in Thailand

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Abstract

Background: Esophageal cancer is one of the major health concerns in Southeast Asian countries, including Thailand. However, only a limited number of studies have been reported from this region. This study was designed to evaluate the prevalence, clinical characteristics and survival rate of esophageal cancer in Thailand. **Materials and Methods:** Clinical information, histological features and endoscopic findings were collected from a tertiary care center in central region of Thailand between September 2011- November 2014 and reviewed. **Results:** A total of 64 esophageal cancer patients including 58 men and 6 women with mean age of 62.6 years were enrolled. Common presenting symptoms were dysphagia (74%), dyspepsia (10%) and hematemesis (8%). Mean duration of symptoms prior to diagnosis was 72 days. Esophageal stenosis with contact bleeding was the most common endoscopic finding (55.6%). The location of cancer was found in proximal (16%), middle (50%) and distal (34%) esophagus. Squamous cell carcinoma was far more common histology than adenocarcinoma (84.2% vs 10.5%). However, esophageal adenocarcinoma was significantly more common than squamous cell carcinoma in distal area of esophagus (100% vs 22.9%; $p=0.0001$, $OR=1.6$, $95\% CI=1.1-2.2$). Esophageal cancer stages 3 and 4 accounted for 35.2% and 59.3% respectively. Overall 2-year survival rate was 20% and only 16% in metastatic patients. **Conclusions:** Most esophageal cancer patients in Thailand have squamous cell carcinoma and nearly all present at advanced stage with a grave prognosis. Screening of high risk individuals and early detection might be important keys to improve the survival rate and treatment outcome in Thailand.

Keywords: Esophageal cancer - late stage - survival - poor prognosis - Thailand

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Introduction

Esophageal cancer is currently the ninth common cancer in Thailand especially in male gender. Most of this particular cancer in Thailand was found in Central region. Esophageal cancer was also the sixth leading cause of cancer death worldwide (Parkin et al., 2005; Jemal et al., 2011), with newly diagnosed in approximately 450,000 patients annually (Kamangar et al., 2006). Esophageal cancer displays a specific epidemiology which departs it from other cancers. The incidence of esophageal cancer is high in Western Europe, South-central Asia, Eastern Africa, and parts of South America, with predominately in males than in females. In the past 40 years, the incidence of esophageal adenocarcinoma in western countries has increased by 600% (Bosetti et al., 2008; Eslick 2009). However, the prevalence of esophageal cancer varies among countries in the world in spite of same risk factors such as cigarette smoking and alcohol intake. The explanation might be from many factors. One of these factors is the classification of cancer location. The cancer at the gastroesophageal (GE) junction that some countries count it as the esophageal cancer, but some countries classified it as the malignant of gastric cardia or proximal gastric cancer (Vilaichone et al., 2014).

Interestingly, overall survival is poor (Song et al., 2012; Liu et al., 2013) despite standard surgical treatment that might be from late presentation, delay in diagnosis and rapid clinical progression (Mirinezhad et al., 2012). Therefore, strategy to management in esophageal cancer patients will be becoming more important.

In Southeast Asian countries, there are not enough studies on prevalence, survival rate and clinical characteristics of esophageal cancer. We conducted this study to evaluate the prevalence, clinical characteristics and survival rate of esophageal cancer patients in Thailand.

Materials and Methods

All patients who have been diagnosed as esophageal cancer by histopathological evaluation at Thammasat university hospital between September 2011 - August 2014 were enrolled. Clinical information, endoscopic findings and histopathology of esophageal cancer patients were recorded. The esophageal cancer was classified histologically according to adenocarcinoma and squamous cell carcinoma. Endoscopic features of esophageal cancer were described as stenosis, or ulcerative or combination of these features. The location of tumor was classified as upper, middle or lower third of the esophagus. Endoscopic

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Table 1. Clinical and Endoscopic Features of Esophageal Cancer

Characteristics	Esophageal squamous cell carcinoma (48)	Esophageal adenocarcinoma (6)
Age (years)	61.2	71
Sex		
Male	43 (89.6%)	5 (83.3%)
Female	5 (10.4%)	1 (16.7%)
Duration of symptom (days)	72	96
Endoscopic features		
Stenotic lesion	27 (56.3%)	3 (50%)
Ulcerative lesion	5 (10.4%)	3 (50%)
Combination lesions	12 (25.0%)	0 (0%)
Other	4 (8.3%)	0 (0%)

Table 2. Location and Staging of Esophageal Cancer

Characteristics	Esophageal squamous cell carcinoma (48)	Esophageal adenocarcinoma (6)
Location		
Proximal	9 (18.8%)	0 (0%)
Middle	28 (58.3%)	0 (0%)
Distal	11 (22.9%)	6 (100%)*
TNM Staging		
I	0 (0%)	0 (0%)
II	3 (6.3%)	0 (0%)
III	17 (35.4%)	2 (33.3%)
IV	28 (58.3%)	4 (66.7%)

*p=0.0001

criterion to identify the esophagogastric junction (cardia) was the point at which the tubular esophagus flares to become saclike stomach at the proximal margin of gastric folds. Staging of esophageal cancer was classified according to TMN staging system.

Statistical analysis

The statistical analysis was performed by using descriptive statistics analysis for the patient characteristics. The clinical findings of the patients were compared by independent-test or Chi-square test or Fisher's exact test where appropriate. The P-value <0.05 was considered to be statistically significant. All statistic analyses were performed using SPSS for Windows Version 19.0 (IBM Corp., Armonk, NY). The study was conducted according to the good clinical practice guideline, and was approved by our local ethics committee.

Results

A total of 64 patients with esophageal cancer were included in this study. There were 58 men and 6 women with a male to female ratio of 9.6:1. The mean age of the patients was 62.6±18 years (range 44-89 years). Common presenting symptoms were dysphagia (74%), dyspepsia (10%), hematemesis (8%), odynophagia (4%) and neck mass (4%). The mean duration of symptoms prior to diagnosis was 72 days. The major endoscopic features of esophageal cancer were stenotic lesion (55.6%) follow by ulcerative lesion (14.8%) as detail in Table 1. The important risk factor of esophageal cancer was history of smoking which presented in most of our patients (90%).

The location of cancer was found in proximal (16%), middle (50%) and distal (34%) part of the esophagus. Squamous cell carcinoma was quite more common than

adenocarcinoma histologic type (84.2% vs. 10.5%). In addition, spindle cell tumor was also found in 5.3% of patients. Esophageal adenocarcinoma was significantly more common than squamous cell carcinoma in distal area of esophagus (100% vs 22.9%; p=0.0001, OR=1.6, 95%CI=1.1-2.20). Most of esophageal cancer patients presented in late stage. The TNM stage 3 and 4 were demonstrated in nearly all patients (35.2% and 59.3% respectively) as shown in Table 2. Overall 2-year survival rate was 20% and only 16% in metastatic patients.

Discussion

Esophageal cancer is one of the common cancers especially in the Asia including Thailand. In Western countries, prevalence of esophageal adenocarcinoma has been increasing and considered to be more important problem. Interestingly, our study demonstrated that esophageal adenocarcinoma was far less common than squamous cell carcinoma. The explanation might be from low prevalence of severe gastroesophageal reflux disease (GERD) with Barrett's esophagus in our country. Barrett's esophagus is a well known risk factor of esophageal adenocarcinoma in Western world but not commonly seen in Southeast Asian countries such as Thailand. Furthermore, most of patients with both histologic types were presented in advanced stage of cancer (stage 3 and 4). Male gender and history of tobacco smoking are also important risk factor of esophageal cancer (Freedman et al., 2007) compatible with our findings.

Middle-third of esophagus was the most common location of esophageal cancer in this study which similar to prior reports. (Amani et al., 2013; Hajmanoochehri et al., 2013) Esophageal adenocarcinoma was detected only in distal part of esophagus and significantly more common in this area than those of squamous cell carcinoma type as demonstrated in our study. However, esophageal squamous cell carcinoma and adenocarcinoma in this study were similar in patients' mean age, sex distribution and clinical presentations. Distal esophageal adenocarcinoma sometimes difficult to differentiate from proximal gastric cancer (Vilaichone et al., 2014). Overall survival rate of esophageal cancer in Thailand was very poor. To enhance the chance of early detection for better treatment outcome, the authors suggested starting screening in high risk individuals such as family members of esophageal cancer (esp. 1st degree relationship), male gender with age more than 50 years patients with alarming

symptoms, history of heavy smoking, severe GERD or previous document of precancerous lesions (eg. Barrett's esophagus). The proper investigation tool should be the upper GI endoscopy.

In conclusion, squamous cell carcinoma is the major histologic type of esophageal cancer in Thailand. Most of patients presented in advance stage and had grave prognosis. Screening in high risk patients as mention above, early detection and prompt treatment should be the keys of success to improve survival rate of this particular cancer in Thailand.

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