



## Esophageal Carcinoma in Indonesia

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### Abstract:

Esophageal cancer is included in seven out of the ten malignancies resulting in death in the world. The incidence of esophageal cancer in Indonesia is estimated still low and there has been little research on the characteristics of esophageal cancer. The objective of this study was to determine the characteristics of patients with esophageal carcinoma. This was a retrospective descriptive study of data obtained from medical records of patients with esophageal carcinoma who had been treated at the tertiary hospital from 2012 to 2014. Most patients were males (75%) and aged from 61-65 years (30%). The histopathologic type was squamous cell carcinoma in 35% of cases and adenocarcinoma in 65%; 65% of carcinomas were moderately differentiated. Sixty percent of the esophageal carcinomas originated in the distal third of the esophagus. No metastases were identified in 85% of cases, whereas metastases were detected in the remaining 15%. The most common characteristics of Indonesian patients with esophageal carcinoma were male and age 61-65 years, the most common histopathologic type was adenocarcinoma, and most cancers were locally advanced at diagnosis.

**Keywords:** Esophageal cancer; Squamous cell carcinoma; Adenocarcinoma

### Introduction:

Esophageal cancer is serious and life threatening, being the seventh most frequent cause of cancer mortality worldwide. Its prevalence varies from 30

to 800 cases per 10,000, the highest prevalence occurring in Iran, Russia, and China<sup>1</sup>. There were 13,900 new cases in the United States in 2003, the incidence being higher in African Americans (13/100,000) than in other ethnic groups. Esophageal cancer occurs more commonly in men, the male to female ratio being 3:1. The risk of esophageal cancer increases with age, the average age at diagnosis being 67 years<sup>2</sup>. The incidence of esophageal cancer is low in Indonesia and there has been negligible research on its prevalence and characteristics.

The most common histopathologic types of esophageal cancer are squamous cell carcinoma and adenocarcinoma. Squamous cell carcinoma is the commonest, accounting for about 60% of all esophageal carcinoma and usually causing death within five years of diagnosis<sup>3</sup>. Squamous cell carcinoma most frequently occurs between the upper and middle thirds of the esophagus, whereas about 75% of adenocarcinomas originate in the lower esophagus<sup>4</sup>. The diagnosis of esophageal cancer is established by the history and findings on physical examination, endoscopy, ultrasonography, barium esophagography, thoracic and abdominal *multi-slice computer tomography*, and tumor biopsy<sup>5</sup>. Esophageal cancer is highly malignant and has a poor prognosis, even with early diagnosis and treatment, the average of 5 year survival rate being 10%<sup>6</sup>. Because the incidence of esophageal cancer is increasing, further study concerning its characteristics is needed.

## Patients and Methods:

This was a retrospective descriptive study of data obtained from the medical records of patients with esophageal cancer who had been treated at tertiary hospital, Yogyakarta, Indonesia from January 2012 to December 2014, and had met the inclusion. The inclusion criteria were age 45 years and older and histopathologic confirmation of esophageal squamous cell carcinoma or adenocarcinoma. Patients with incomplete data were excluded.

## Results:

Of the 20 patients who had been treated with esophageal carcinoma in hospital from 2012 to 2014 identified by a search of medical records, 15 (75%) were males and five (25%) females. Three of these patients (15%) were aged 41–50 years, five (25%) 51–60, eight patients (40%) 61–70, and four (20%) >70 (**Table 1**). Seven (35%) of the patients had squamous cell carcinoma and another 13 (65%) with adenocarcinoma. The most common site was the lower third of the esophagus (12 cases; 60%), followed by the upper and middle third of the esophagus (both four cases; 20%). Five of the cancers (25%) were classified as well differentiated, 13 (65%) were moderately differentiated, and two (10%) poorly differentiated. Most patients had localized disease, 17 cases (85%) having no identified metastases and three cases (15%) metastases (two to the liver [10%] and one [5%] to the lungs (**Table 2**).

Ten men (50%) and three women (15%) had adenocarcinoma and five men (25%) and two women (10%) squamous cell carcinoma. In the 61–70 year age group, five patients (25%) had adenocarcinoma and three (15%) squamous cell carcinoma (**Table 3**).

## Discussion:

This study aimed to provide an overview of the basic characteristics of esophageal carcinoma

Variable	Number (%)
<b>Sex</b>	
Male	15 (75)
Female	5 (25)
<b>Age (years old)</b>	
α. 40-50	3 (15)
β. 51-60	5 (25)
χ. 61-70	8 (40)
δ. >70	4 (20)

**Table 1:** Relevant patient characteristics.

at tertiary hospital, including histopathologic features, prime tumor location, and presence of metastasis. We found the disease was commoner in male than female patients, the ratio being 3:1. This is in accordance with the findings of a previous study, which have also reported a male to female ratio of 3:1<sup>7</sup>. The higher incidence in men may be related to the higher frequency of smoking habit. Previous research has shown that smoking is associated with an increased risk of esophageal cancer of squamous cell carcinoma type<sup>2</sup>. The risk of esophageal cancer correlates directly with the number of cigarettes smoked per day and the duration of smoking<sup>2</sup>. Most study patients with esophageal carcinoma were more than 60

Histopathology	n (%)
<b>Squamous Cell Carcinoma</b>	
1. Well differentiated	3 (15)
2. Moderately differentiated	3 (15)
3. Poorly differentiated	1 (5)
<b>Adenocarcinoma</b>	
1. Well differentiated	2 (10)
2. Moderately differentiated	10 (50)
3. Poorly differentiated	1 (5)
<b>Location</b>	
1. Upper third	4 (20)
2. Middle third	4 (20)
3. Lower third	12 (60)
<b>Metastasis</b>	
No metastasis	17 (85)
With metastasis (liver and lung)	3 (15)

**Table 2:** Characteristics of esophageal cancers.

Variable	SCC (%)	AC (%)	Total (%)
<b>Sex</b>			
α. Male	5 (25)	10 (50)	15 (75)
β. Female	2 (10)	3 (15)	5 (25)
<b>Age (years old)</b>			
α. 41-50	2 (10)	1 (5)	3 (15)
β. 51-60	2 (10)	3 (15)	5 (25)
χ. 61-70	3 (15)	5 (25)	8 (40)
δ. >70	0	4 (20)	4 (20)

**SCC:** Squamous Cell Carcinoma

**AC:** Adenocarcinoma

**Table 3:** Age and sex versus histopathologic type of esophageal cancer.

years old, which is consistent with a report that esophageal cancer occurs most commonly in the fifth to sixth decade of life<sup>1</sup>. There were more cases of esophageal adenocarcinoma (13 cases, 65%) than squamous cell carcinoma (seven cases, 35%). The incidence of squamous cell carcinoma has reportedly been declining during the last 20 years, whereas that of adenocarcinoma has increased in parallel with the increased prevalence of obesity, which can result in increased intraabdominal pressure and consequent gastroesophageal reflux<sup>2</sup>. The most frequent location of esophageal cancer is reportedly the lower esophagus<sup>6-8</sup>; 12 of our patients (60%) had cancers in this location. Most adenocarcinoma of the esophagus occurs in the distal part of esophagus as a consequence of the columnar epithelial metaplasia that can replace the squamous epithelium during healing after reflux esophagitis; dysplasia can subsequently develop in these cells.

Most esophageal cancers in our series were locally advanced but without metastases; this being true of 17 patients (85%), whereas three (15%) had metastases. The high incidence of locally advanced disease is likely attributable to the absence of symptoms in the early stages. About 90% of patients with esophageal cancer present with difficulty swallowing (dysphagia) as their chief symptom; such dysphagia is characteristically progressive<sup>9</sup>. In the present study, three patients (15%) had metastases, two cases (10%) in the liver and one (5%) in the lungs, which is consistent with the earlier research showing that the hematogenous metastases occur in the liver, lungs, and bones in that order<sup>10</sup>. Because patients often present with late stage disease that is relatively unresponsive to treatment, the prognosis is poor.

#### Conclusion:

Patients with esophageal carcinomas who attended tertiary hospital were mostly males, aged 61-70 years, had adenocarcinoma, and their cancers were most commonly located in the lower third of the esophagus and were locally advanced. Further study of risk factors, early diagnosis, and therapeutic strategies is needed, ideally involving multiple centers.

#### Declaration of Conflicting Interests:

The authors declare that there are no conflicts of interest

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