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THE HISTOPATHOLOGICAL SPECTRUM OF CARCINOMA OESOPHAGUS : A 1 YEAR RETROSPECTIVE STUDY

Pathology

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ABSTRACT

Introduction: Oesophageal cancer is a deadly malignancy with a very high mortality. It is a growing health concern and its incidence is expected to increase in the coming years. The two distinct histopathological subtypes of oesophageal cancer are squamous cell carcinoma and adenocarcinoma. **Aim:** To study the clinical characteristics, age, sex, histopathological subtypes, and tumour site of oesophageal cancer in this area. **Materials And Methods:** This retrospective study was done for a period of 1 year in the Department of Pathology AMCH Assam. Information was obtained from the Department of Pathology's request forms about clinical characteristics, age, sex, tumour site, and histological diagnosis. Slides and blocks were extracted from the Department of Pathology's archives. Every slide was reassessed. **Results:** A total of 32 cases of oesophageal carcinoma were identified in this study. The youngest patient was 40 years old and the oldest patient was 76 years old. All the 32 samples were from endoscopic biopsy. Squamous cell carcinoma was diagnosed in 30 patients while adenocarcinoma was reported in 2 cases. Features like tumour site, histopathological type and histopathological grade were noted. Most common involved site was middle oesophagus followed by lower oesophagus. Both the cases of adenocarcinoma were identified in the lower part of oesophagus. Among squamous cell carcinoma well differentiated tumours accounts for 20% of cases, moderately differentiated tumours accounts 73.3% for of cases and poorly differentiated tumours accounts for 6.7% of cases. Both the cases of adenocarcinoma were graded as well differentiated. **Conclusion:** The majority of oesophageal carcinomas are of the squamous cell carcinoma type, found predominantly in the middle and lower oesophagus and there is a growing tendency in the incidence of adenocarcinoma in the lower oesophagus due to high frequency of gastroesophageal reflux disease.

KEYWORDS

Oesophageal carcinoma, Squamous cell carcinoma , Adenocarcinoma

INTRODUCTION

Oesophageal carcinoma is considered as a serious malignancy in terms of prognosis morbidity and mortality. Oesophageal carcinoma is the eight most prevalent cancer globally and the sixth leading cause of cancer related death worldwide with developing nations accounting for more than 80% of total cases and deaths[1].The incidence of many other cancers is predicted to decline over the next 10 years, whereas oesophageal cancer is predicted to rise by 140% by 2025[2]. Despite numerous advancements in diagnosis and treatment, the 5 year survival rates for all patients diagnosed with oesophageal cancer ranges from 15 %to 20%[3]. The incidence and the histological type of oesophageal carcinoma is greatly influenced by geographical location. Incidence rates of squamous cell carcinoma of the oesophagus have been reported as high as 100 cases per 100000 annually in an area referred to as the "Asian oesophageal cancer belt" and this region extends from northeast China to the Middle East[4]. The two most common histological types of oesophageal carcinoma are squamous cell carcinoma and adenocarcinoma . The other histological types are small cell carcinoma and sarcoma accounting for less than 1% to 2% and rarely melanomas carcinoids and lymphomas may also arise in the oesophagus[5].Worldwide squamous cell carcinoma is the most prevalent histological type of oesophageal cancer while in certain developed nations adenocarcinoma of oesophagus predominates[6]. Squamous cell carcinoma occurs equally as often in middle and lower oesophagus and the major risk factors include alcohol consumption and tobacco use[7]. About three-fourths of the time, adenocarcinoma of the oesophagus develops in the distal oesophagus and it is clearly associated with gastroesophageal reflux disease (GERD)[8].

MATERIALS AND METHODS

The present study is a retrospective study conducted in the Department of Pathology Assam Medical College and Hospital. Patients with histologically proven oesophageal cancer were retrospectively studied. The pathologic diagnosis of oesophageal cancer was obtained by the evaluation of 32 endoscopic biopsy specimens. Data regarding clinical features, age, sex, tumour location and histopathological diagnosis was retrieved from the request forms of the Departments of Pathology. Slides and blocks were extracted from the department of Pathology's archives. Patients with non-oesophageal primary tumour that met the criteria for squamous cell carcinoma or adenocarcinoma and those in whom the oesophagus was involved with metastatic disease were not included in the study. Three oesophageal regions were identified as the tumor's location: upper, middle, and lower.

AIM

The aim of this study was to describe the clinical characteristics, age, sex, histopathological subtypes, and location of oesophageal cancer in this area since its distribution changes depending on the location.

RESULTS

A total of 32 cases of oesophageal carcinoma were identified in this study. The youngest patient was years 40 years old and the oldest patient was 76 years old. Male : Female ratio is 1.6:1 . Among 32 cases of endoscopic biopsy specimens of oesophagus, squamous cell carcinoma was diagnosed in 30 patients while adenocarcinoma was reported in only 2 cases. Features like tumour site, histopathological type and histopathological grade were noted. The most common involved site was middle oesophagus followed by lower oesophagus. Only 2 cases of adenocarcinoma was reported and both the cases were in the lower part of oesophagus. Among Squamous cell carcinoma well differentiated tumour account for 20% of cases, moderately differentiated accounts for73.3% of cases and poorly differentiated accounts for 6.7% of cases. Among 2 cases of Adenocarcinoma , both were well differentiated.

Table – 1 Distribution Of Cases According To Their Age, Sex And Number Of Lesion.

Age(in years)	Male	Female	Number
31-40	1	0	1
41-50	3	6	9
51-60	9	3	12
61-70	4	2	6
71-80	3	1	4
Total	20(62.5%)	12(37.5%)	32(100%)

Table – 2 Distribution Of Cases According To Histological Type

Histological type	Number	%age
Squamous cell carcinoma	30	93.75
Adenocarcinoma	2	6.25
Total	32	100

Table -3 Distribution Of Cases According To Anatomical Site And Histological Grade

Variables	Squamous cell carcinoma	Adenocarcinoma	Grand total	%age
Anatomical site				
Upper oesophagus	4	0	4	12.5%
Middle oesophagus	16	0	16	50%
Lower oesophagus	10	2	12	37.5%
Histologic grade				
Well differentiated	6	2	8	25%

Moderately differentiated	22	0	22	68.75%
Poorly differentiated	2	0	2	6.25%

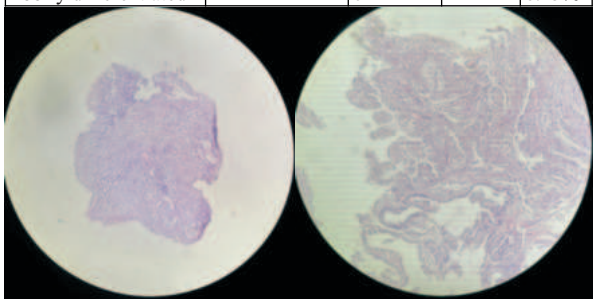

Fig1: Squamous Cell Carcinoma **Fig2:** Adenocarcinoma

DISCUSSION

Although adenocarcinoma cases are continuously rising in western countries, the incidence of squamous cell carcinoma is exhibiting a progressive drop[9]. Squamous cell carcinoma does, however, still exhibit significant regional variance, particularly in Iran, Asia, and Africa[10].In present study, squamous cell carcinoma was the predominant histological type of oesophageal cancer accounting for 93.75% of cases while 6.25 % cases of adenocarcinoma were observed.

In those under 40, oesophageal cancer is exceedingly uncommon, and its incidence rises with each passing decade[11]. In the present study age range was 31-80 years. Most of the cases were seen in 5^{th} -6^{th} decade of life. Qureshi et al and Bazaz-Malik G also found most of the cases in 5^{th}- 6^{th} decade of life[12][13].

When it comes to squamous cell oesophageal carcinoma, the female to male ratio varies greatly[14][15]. In our study, the male : female ratio of squamous cell carcinoma was 1.5:1.The greater incidence of smoking and alcohol intake among our male population may be the reason for the higher percentage of tumours in comparison to females. Numerous researchers have noted that men are more likely than women to develop oesophageal cancer, regardless of the histological type[16][17].

In our study middle oesophagus was the most common site involved in cases of squamous cell carcinoma followed by lower oesophagus . Only 2 cases of adenocarcinoma were reported and both were in the lower part of oesophagus. Mehrotra Et al, reported that the middle third of the oesophagus was the most common site of oesophageal cancer in India and more than 95% of neoplasms were of the squamous cell carcinoma type[18]. In another study, 50% of oesophageal cancers were located in the middle third, 30% in the lower third and 15% in the upper third of the oesophagus. 90% of these cancers were of the squamous cell type and only 10% were adenocarcinomas[19].

Among 30 cases of squamous cell carcinoma , 6 cases were found to be well differentiated,22 cases were graded as moderately differentiated and 2 cases were graded as poorly differentiated . Out of 2 cases of adenocarcinoma both the cases were found to be well differentiated. The malignant transformation of Barrett's oesophagus is linked to the recently documented rise in the incidence of adenocarcinomas in the lower oesophagus[20].

CONCLUSION

Squamous cell carcinomas, which commonly occur in the middle and lower oesophagus, account for the majority of oesophageal carcinomas. Due to the high prevalence of gastroesophageal reflux illness, there is an incidence of adenocarcinoma of the lower end of the oesophagus.

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