Original article

Incidence of Esophageal Cancer in Madina Hospital, Somalia

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Abstract

Background: Esophageal cancer is a significant and increasing health problem. In 2005, there were 497,700 new cases, and the prevalence is expected to double by 2025. It also remains a deadly disease, with 416,500 people estimated to have died from esophageal cancer in 2005. Our aim was to identify the frequency of esophageal carcinoma in Madina Hospitals. **Methods:** This is a cross sectional study investigating the frequency of esophageal carcinoma in Somalia between 2010 and 2015. **Results:** The study group consisted of 300 patients with esophageal cancer of whom 162 (54%) were males revealing that the disease has a slight male predominance. The mean age was 67±7.7 (range: 54-80) years. The diagnosis was made by barium meal series in 87% of the patients, whereas 10% were diagnosed via computerized tomography (CT) scan, and 2% were diagnosed with endoscopy. Seventy-eight (26%) patients underwent surgery while the remaining registered patients went into palliative treatment due to the detection of a late stage or metastatic cancer at primary diagnosis. **Conclusions:** Endoscopic screening for all who can afford may lead to early detection of esophageal cancer, and early treatment as well as the provision of staging methods in the hospital to stage the disease and prioritize management of the disease may reduce morbidity & mortality of this condition.

Keywords: Esophageal cancer; squamous cell endoscopy; surgery

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Introduction

Esophageal cancer is the eighth most common cancer in the world. In 2012, approximately 450,000 people (3.2% of all cancers) suffered from this entity. Low survival rate and rapid progression of the disease are the main features of this cancer type.¹ Of the two major types, squamous cell cancer is the most common worldwide, but in the United States and many Western countries, adenocarcinoma has surpassed squamous cell cancer to become the most prevalent form of esophageal cancer.

In one of the most dramatic epidemiologic shifts ever recorded, esophageal adenocarcinoma has

gone from a disease that was not thought to exist until the 1950s, to the fastest increasing cancer in America in the 2000s.²⁻⁴ The rising incidence is occurring across all disease stages and all age groups, but the greatest increase (>600%) is encountered in men over 65 years old. Most cases are diagnosed in white males, but Hispanic, Japanese, Chinese, and African-American people also may develop esophageal cancer. According to the National Cancer Institute, in the United States there will be approximately 17990 new cases and 15210 deaths in 2013.⁵ A similar trend has been reported in other Western countries.⁶ Unlike esophageal adenocarcinoma, the incidence

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does not differ significantly between white and African.⁷

Anecdotal reports show that the number of esophageal cancers in the hospitals of Somalia is high, and most of these patients are diagnosed in late stages leading to a loss of the chance for a surgical treatment. Our aim was to give highlights on the frequency of esophageal cancer in Medina Hospital in Somalia.

Materials and Methods

This is a cross sectional study in which the frequency of esophageal cancer cases diagnosed via X-ray, computerized tomography (CT) scan and endoscopy in Medina Hospital, Somalia from 2010 to 2015 were investigated. Approval for this study was obtained from the local ethics committee of our institution. All patients diagnosed with esophageal cancer were included in the study whereas patients with other types of cancers were excluded.

All data was collected by the same doctor. Variables including age, sex, location, methods of diagnosis and management were recorded and evaluated. After the database was cleaned and verified, it was transformed into SPSS using Computer software package SPSS (ver. 20.0). Quantitative variables were presented using the Mean $\pm$ SD values. Qualitative data were presented using count and percent frequencies.

Figure 1. The distribution of esophageal cancer patients in Medina Hospital between 2010 and 2015 according to regions.

Results

The study group consisted of 300 esophageal cancer patients with a mean age of 67 ± 7.7 (range: 54 – 80) years. In the study group, 162 (54%) cases were male patients revealing that the disease has a slight male predominance.

According to local records, it was detected that the highest frequency was in the Bay and Bakool regions, followed by Lower Shabelle and Lower Jubba regions (Figure 1).

All patients who were diagnosed with esophageal

carcinoma showed signs of weight loss and malnutrition due difficulty or inability of feeding. Solid dysphagia was universal (100%) among patients. It was the primary symptom which raised the suspicion of patients would probably have esophageal carcinoma. Additionally, 172 (57%) patients presented with liquid dysphagia, which is one of the last stages of esophageal cancer presentation.

Eighty seven percent of the patients were diagnosed by a barium meal series while 10% were diagnosed with CT scan and 2% were diagnosed via endoscopy. Seventy eight (26%) patients underwent surgery but the rest of the registered patients went into palliative treatment due to either late stage cancer, or metastasis.

Discussion

Squamous carcinoma accounts for the majority of esophageal carcinomas worldwide.⁸ Its incidence is highly variable, ranging from approximately 20 per 100,000 in the United States and Britain, to 160 per 100,000 in certain parts of South Africa.⁸ The incidence of esophageal cancer varies geographically, with more than 80% of cases and deaths worldwide occurring in developing countries.⁹ In an epidemiologic study, age-standardized incidence rates (ASRs) were calculated for each population in East Africa between 2004 and 2008. In Blantyre, 351 male (59%) and 239 (41%) female cases were reported, with ASRs of 47.2 and 30.3. In Harare, 213 male (61%) and 134 (39%) female cases were reported, with ASRs of 33.4 and 25.3, respectively. In Kampala, 196 male (59%) and 137 female (41%) cases were reported, with ASRs of 36.7 and 24.8. In Nairobi, 323 male (57%) and 239 female (43%) cases were reported, with ASRs of 22.6 and 21.6. Median age at diagnosis was significantly different among the four populations, ranging from 50 years in Blantyre to 65 years in Harare ($p<0.0001$). Incidence among males was significantly higher than among females ($p<0.01$), except in Nairobi. Squamous cell esophageal cancer was the predominant histologic subtype at all sites. ASRs at all four sites were remarkably higher than the mean worldwide ASR.⁹

Adenocarcinoma of the esophagus, once an unusual malignancy, is diagnosed with increasing frequency, and now accounts for more than 50% of esophageal cancer in most Western countries.⁸ In the present study, the mean age was 67 ± 7.7 years which is similar to a research on descriptive epidemiology in America that reported increased

risk with age for different types of esophageal cancer with a mean age at diagnosis of 67 years.¹⁰ In contrast, another study in Kenya showed that the youngest patient was 20 years old and the oldest patient was 96 years old with a mean age of 58.69 years. Most of our cases were of age between 50 to 70 years. The difference in mean age at presentation between males and females was not statistically significant ($P=0.653$). There were a sizable number of young patients in this group, with 30 (10%) of all cases of esophageal cancer occurring in patients less than 40 years of age.¹¹

In this study, 54% of the patients who had been diagnosed with esophageal carcinoma in the Medina Hospital were males as this shows that the disease slightly has a male predominance. A similar study in Kenya stated that esophageal cancer in rift valley was the most common cancer in men, yet it was the third common cancer in women. A male to female ratio of 1.5:1 was observed.¹¹

Wasting due to lack of food intake, and due to different kinds of dysphagia was stated in the study. Solid dysphagia was universal and 57% of the patients had liquid dysphagia. Many studies were similar reporting dysphagia and weight loss. A study in Kenya, showed that dysphagia and weight loss were the most common presenting symptoms, in keeping with a wide series of published reports. In fact, weight loss combined with dysphagia was almost always pathognomonic of this type of cancer. Vomiting and chest pain were also common presenting complaints. Although hematemesis has been reported by others to be quite common, we did not observe any patients with this complaint.^{12,13}

The most common imaging study used for diagnosis was barium meal series (87%). Although CT scan was used for the diagnosis of the patients as well, staging was not provided. In contrast, in the study of Kyle et al, the most common imaging modalities used in diagnosing and staging included

computed tomography, endoscopic ultrasound and positron emission tomography scans.¹⁴

In a study of 328 esophageal cancer patients from Tanzania, it was reported that 81.7% of patients presented late with advanced stage of cancer.¹⁵ It is estimated that, on their first visit to the hospital, more than 40% of the patients with esophageal cancer will have evidence of distant metastases.⁸ In our study population, 78 (26%) patients underwent surgery but the rest of the registered patients went into palliative treatment due to late stage of the carcinoma as well as metastasis. A study in England showed that chemo - radiotherapy, results of which, published in 1996, showed a survival advantage for neoadjuvant treatment.¹⁶ Limitation of this study is its being based on collecting information from registers.

Conclusion

Cancer of the esophagus is the 9th most common cancer in the World and the 5th most common cancer in developing countries. It is aggressive in nature with poor prognosis especially in its late stages. Medina Hospital, which is a fully equipped general hospital, received most of the esophageal cancer cases between 2010 and 2015 in Somalia. The disease slightly has a male predominance. Symptoms & signs are the mainstay of diagnosing the disease. On the other hand, methods for confirmation of the diagnosis are very limited, and patients arrive to health centers in their advanced stages.

Recommendation

Screening through endoscopy for all who can afford, early detection of esophageal carcinoma and early treatment, to provide staging methods in the hospital to stage the disease and prioritize management of the disease, the provision of good palliative treatment with painkillers and parenteral feeding in the nutrition as they lack comprehensive palliative treatment and to do further research on the risk factors of esophageal carcinoma.

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