

Presentation of Tongue Cancer at a Tertiary Hospital in the Western Region of Saudi Arabia

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Abstract. To describe the presentation of tongue cancer in patients who were followed up at King Abdulaziz University Hospital, and stress on the importance of community programs. A retrospective study conducted on patients diagnosed with tongue cancer at the Department of Otolaryngology and Head and Neck Surgery between 2005 and 2011. Data was collected on demographic and clinical findings with the help of a preformed questionnaire. 24 patients (14 males and 10 females) were studied. The common presenting symptoms were ulcers (58.3%) and masses (41.7%). Seven (29.2%) patients had history of smoking and alcohol consumption in 6 (25.0%) cases. Most patients were diagnosed with advanced disease (41.7 and 37.5% for stages 3 and 4, respectively). For all stages, the minimum age at diagnosis was 31 years, while the maximum age was 79 years. There was no significant difference in age between the patients with respect to the cancer stages ($p = 0.895$). The most common pathological variant was squamous cell carcinoma ($n = 23, 95.8\%$). In conclusion, most patients had stages 3 and 4 disease at the time of diagnosis. It might be necessary to implement programs aimed at

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educating the community and healthcare personnel in order to reduce late presentation to hospital.

Keywords: Tongue carcinoma, Presentation, Symptoms, Diagnosis.

Introduction

Oral cavity cancers are a global health issue worldwide. Recent data shows that an estimated 263,900 new cases and 128,000 deaths from cancer of the oral cavity occurred worldwide in 2008^[1]. In that same year, the lowest incidence rates were reported in Africa, Central America, and Eastern Asia, while the highest rates were in South-Central Asia, Melanesia, and Central and Eastern Europe for both males and females^[1]. In Saudi Arabia, despite the increasing incidence of cancers over the past decade and a lower age at diagnosis of cancers, the latest report by the Saudi Cancer Registry showed that oral cavity cancers did not feature among the 10 most common cancers for Saudi males and females^[2]. Furthermore, there are reports that smoking, which has been reported as one of the major risk factors of oral cancer, is a relatively common practice in Saudi Arabia^[3,4]. Smokeless tobacco has been reported to be a major cause of oral cancer in Saudi patients with about 58% of the patients; in one study identified to have tobacco-chewing habits^[3].

Regarding the symptomology of tongue cancer, one study concluded that pain is the most common symptom. Other symptoms include ear pain, bleeding, mobility of teeth, problems in breathing, difficulty in speech, dysphagia and problems using prosthesis, trismus, and paraesthesia^[5]. Other study reports ulceration and swelling, followed by pain and bleeding were the main symptoms^[6].

Currently, very little is known about the data and awareness of the population toward tongue cancer diagnosis in Saudi Arabia. In a population-based study conducted in Jeddah, the authors found that up to 72.2% of the subjects in their study did not know the signs of oral cancer^[4]. This lack of knowledge might result in late hospital visits and hence, late diagnosis when the disease is already advanced. The aim of this study was to describe the presentation of tongue cancer in patients who were followed up at a tertiary hospital in Jeddah, and to stress on the importance of educating the community and healthcare personnel about the manifestations of this disease.

Methods

A retrospective review on medical records of patients diagnosed with tongue cancer at the Department of Otolaryngology and Head and Neck Surgery, at King Abdulaziz University Hospital, from the period between January 2005 and December 2011. Permission to conduct this study was granted by the Biomedical Ethics Research Committee of King Abdulaziz University.

This report included all cases with histopathological evidence of tongue cancer that were diagnosed during the study period. A preformed questionnaire was used to collect the data of all patients included in the study. Patients' files were reviewed and recorded the following information: Date of presentation, gender, chief complaints, history of smoking or alcohol consumption, age at diagnosis of tongue cancer, reports of investigations (radiological, histopathological and surgical), management, and the presence or absence of recurrence.

The tumor node metastases (TNM) staging system of the American Joint Committee on Cancer (AJCC) and the International Union for Cancer Control (UICC) were used^[7].

Statistical Analysis

Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS) Version 18. Chi-square test was used for the difference between proportions of patients with different cancer stages. One-way analysis of variance (ANOVA) was used for checking whether there was a difference in age between the cancer stages.

Results

Twenty-four patients were enrolled in the study. There were 14 (58.3%) males and 10 (41.7%) females. Fourteen (58.3%) patients presented with ulcers, while 10 (41.7%) patients complained of a mass. Pain was a complaint in 8 patients, and bleeding was noted as a complaint in only one of the cases (Table 1). Amongst the cases, 7 (29.2%) had a history of smoking, while 6 (25.0%) patients, who were non-smokers had a history of alcohol consumption.

Table 1. Frequency of symptoms in the patients.

Symptoms	Frequency	Percent
Ulcer		
Right side	1	4.2
Left side	11	45.8
Right and left sides	2	8.3
Mass		
Right side	5	20.8
Left side	5	20.8
Pain	8	33.3
Bleeding	1	4.2

In order to confirm the diagnosis, incisional biopsy was performed in 50.5% of the cases (n = 12); 10 (41.7%) patients had excisional biopsy and in two patients the incisional biopsy were non-conclusive and required excisional biopsy. Most patients (n = 10, 41.7%) were diagnosed with stage 3 tongue carcinoma, while stage 1 cancer was diagnosed in 2 (8.3%) cases. The mean ages of the patients at diagnosis and the stages of tongue cancer are shown in Table 2. For all stages, the minimum age at diagnosis was 31 years, while the maximum age was 79 years. One-way ANOVA determined there was no significant difference in age between the cancer stages (p = 0.895).

Table 2. Age of the patients at diagnosis and tongue cancer stage.

Stage	Frequency (percent)	Minimum Age (years)	Maximum Age (years)	Mean (SD) Age (years)	p-Value*
Stage 1	2 (8.3)	44	55	49.5 (7.8)	0.895
Stage 2	3 (12.5)	38	74	55.3 (18.0)	
Stage 3	10 (41.7)	31	79	56.7 (13.0)	
Stage 4	9 (37.5)	36	75	53.2 (14.1)	

*One-way ANOVA was used to determine whether a difference in age existed between the cancer stages.

Two pathological variants were identified, namely squamous cell carcinoma (n = 23, 95.8%) and mucoepidermoid carcinoma (n = 1, 4.2%).

Discussion

The clinical findings of patients with tongue cancer were investigated and found that most cases were presented with an ulcer or a mass. In addition, the majority of the patients were diagnosed to have

advanced stages of the disease; 41.7% and 37.5% for stages 3 and 4, respectively. The youngest patient was 31 years old and the oldest was 79 years of age. In 95.8% of the patients, squamous cell carcinoma was identified, which has been reported as the most commonly encountered histological variant of tongue cancer^[8].

Tobacco smoking and excessive consumption of alcohol are well known predisposing factors for the development of tongue cancer^[9,10]. These risk factors were identified in more than half of the patients in our study population; 29.2% had a history of smoking, while 25.0% had a history of alcohol consumption. In Saudi Arabia, efforts have been made to control the consumption of these products, notably with the complete banning of the production, importation or consumption of alcohol and the passing of an anti-smoking law by the Shoura Council in 2001^[11]. It is not known how effective these measures have been, and judging by the relatively high prevalence of smoking at 12% in a nationwide community-based study conducted in Saudi Arabia^[12], one might conclude that these measures are not effective. On the other hand, campaigns to warn people of the health hazards associated with the consumption of these products seem to have been productive as in a community-based study conducted in Jeddah. It was found that more than half of the population identified tobacco and alcohol to be the major risk factors for oral cancers; smoking and alcohol consumption were correctly identified as risk factors in 64.6% and 53.4% of the cases, respectively^[4].

The mean age at diagnosis of tongue cancer in the present study was 53.7 years, and it was lowest for patients with stage 1 cancer; however, the differences between the age and the stage of the disease was not significant ($p = 0.895$). Nevertheless, pediatric case in this study was not encountered, possibly because of the low incidence of tongue cancer in children, and only a few cases of the disease have been reported in children less than 12 years of age^[13,14]. In the United States, the Surveillance and Epidemiology End Results reported that the median age at diagnosis of tongue cancer between 2004 and 2008 was 61 years with about 0.2% of the cases diagnosed under age 20 years and 4.6% above 85 years of age^[15]. In Saudi Arabia, there are no published data on the incidence of tongue cancer in different age groups. In a recent report, it was estimated that the median age at diagnosis of oral cancers (lip, mouth and tongue included) in Saudi Arabia was 62 years^[14].

Most of the patients in this present study presented with a mass (41.7%) or ulcer (58.3%), and they were found to have advanced disease in the majority of the cases. In the literature, most patients with tongue cancer present with an indurated, non-healing ulcer or as a red, white or red-and-white lesion^[10]. Lesions of this type may be mistaken for an infection, and hence, lead to the unnecessary prescription of antifungal agents, steroids or mouth wash. Moreover, it is possible that most patients present late to the hospital because they are unaware of the seriousness of their symptoms. In a survey conducted among residents of Jeddah in 2005, it was found that 72.2% of the respondents did not know the signs of oral cancer^[4]. This prompts us to believe that there is still much to be done in order to decrease the proportion of patients who present late to the hospital.

The present study had some limitations. In addition to the small sample size, there were difficulties in collecting all the data needed as some patients were lost to follow-up with their appointments. However, this is the first article presentation to address the issue of tongue cancer at this study's hospital, and it shows that most of the patients were presented to this study's hospital when the disease was advanced. Therefore, it is recommended that further studies with a larger sample size to confirm this finding, and hence, emphasize the need to increase public awareness to tongue cancers.

Conclusion

The main presenting symptoms in patients who consulted at this study's hospital were oral ulcers and masses. Histopathology results revealed squamous cell carcinoma in 95.8% of the cases, and most patients had stages 3 and 4 disease at the time of diagnosis. This shows that there might be a need to implement programs aimed at educating the general population and the medical community on the manifestations of tongue cancer, and the implications of recognizing the disease early in order to reduce late presentation to hospital, and hence, improve disease prognosis^[16].

Disclosure of Benefit

The authors have no conflict of interest to declare.

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أعراض سرطان اللسان لمرضى مستشفى جامعة الملك عبدالعزیز بجدة

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المستخلص. الهدف من هذا البحث هو وصف أعراض مرض سرطان اللسان لمرضى مستشفى جامعة الملك عبدالعزیز بجدة وتأکید على أهمية التتقیف الصحي للمجتمع والعاملین في الرعاية الصحية حول هذا المرض. أجرینا دراسة استیغادیة للسجلات الطیبة الخاصة بالمرضى الذین یعانون من مرض سرطان اللسان في قسم الأنف والأذن والحنجرة في جامعة الملك عبدالعزیز بجدة من الفترة الممتدة من شهر يناير ٢٠٠٥م وحتى شهر ديسمبر ٢٠١١م. اشتملت الدراسة على ٢٤ مریض (١٤ ذكراً (٥٨,٣%) و ١٠ إناث (٤١,٧%)). وكان تقرح اللسان هو أكثر الأعراض شیوعاً بنسبة وصلت إلى ٥٨,٣%. ووضحت الدراسة أن غالبية المصابین بالمرض تم تشخیصهم بمرحلة متقدمة من المرض حیث بلغت نسبة المصابین بالمرحلة الثالثة والرابعة هي ٤١,٧% و ٣٧,٥% على التوالي. إن قرح اللسان هو العرض الأكثر شیوعاً للمصابین بمرض سرطان اللسان وأن غالبية المرضى يتم تشخیصهم في المرحلة الثالثة أو الرابعة للمرض. وعليه فإننا نوصي بأهمية تتقیف أفراد المجتمع والرعاية الصحية من أجل الحد من اكتشاف المرض في مراحل متأخرة.