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Journal	日本口腔検査学会雑誌, 9(1): 37-40
URL	http://hdl.handle.net/10130/4238
Right	
Description	

Short report on oral cancer and most commonly admitted cases in Yemen -A hospital based study-

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Abstract

The purpose of this study was to assess the conditions of maxillofacial patients in Yemen generally and to show the prevalence of oral cancers among all other oral diseases in the country. This study is based in the Maxillofacial Department in the Thawrah Modern General Hospital in Sana'a, Yemen, in which 1462 entries were used. While the majority of cases admitted to the Department were caused by trauma (fractures), the 2nd highest category was patients suffering from tumors and/or cysts. Among those, the incidence of malignant neoplasms was twice that of benign neoplasms while most of the cases were diagnosed as being neoplasms of uncertain behavior. In conclusion, oral neoplasms in general and malignant neoplasms in particular form a serious burden on the health care system in Yemen. Care should be taken for the prevention of these conditions and not just in treating them.

Key words: Yemen, Oral cancer, Smokeless tobacco, Shammah

Submitted: 25th January, 2017 Received: 1st February, 2017

Introduction

Yemen is located in the Middle East, and has a population of about 24,000,000 (World Bank Data). With few adequately equipped medical facilities, a shortage of oral surgeons and an almost complete absence of oral pathologists due to the non-availability of oral surgery and pathology programs, patients from all regions of the country tend to travel to the capital's Thawrah Modern General Hospital (T.M.G.H.) to seek treatment. The T.M.G.H. is one of the biggest health providers in the country and taking a closer look at its admitted

patients would give us an idea about the incidence of their oral diseases. While there are a few studies that have discussed the relationship between oral cancer and forms of tobacco or Qat leaves which are chewed regularly in Yemen¹⁾, the scope of this study was to shed some light on the proportion of oral cancer cases to the rest of the admitted patients. We obtained data to make this hospital-based study explore the profile of the most commonly admitted cases in the Maxillofacial Department at the T.M.G.H. in Yemen, especially concerning the portion of oral cancer patients.

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table 1 Number of patients, Male-female numbers.

	Number	Percentage
Total Number of Patients	1462	100%
Male	960	65.66%
Female	502	34.34%

table 2 Most admitted cases

Diagnosis of admitted cases	Number	Percentage
Fractures	743	51%
Tumors and Cysts	410	28%
Wounds	76	5%
Salivary glands	63	4%
TMJ	33	2%
Other	137	9%

table 3 Patient age groups

Age groups	Number of patient	Percentage
under 30s	1048	71.68%
40s	125	8.55%
50s	119	8.14%
60s	94	6.43%
70s	54	3.69%
80s	13	0.89%
90s	3	0.21%
N/M	6	0.41%

table 4 Neoplasm cases.

Neoplasm cases		
Neoplasm of uncertain behavior	269	73%
Benign	32	9%
Malignant	65	18%
total	366	100%

Patients and data acquisition

In this study, we used data of cases admitted to the Maxillofacial Department of the T.M.G.H between January 2008 – December 2013. The data were acquired from the archives of the T.M.G.H. and originally contained 2,713 entries. After reviewing the data, 1,462 of those entries were used (Table 1). The remaining entries were omitted due to input errors. Each data entry included age, sex and diagnosis of the case at the point of admission into

the ward. The diagnosis entry was divided into tumors and cysts, fractures, wounds, salivary gland diseases, TMJ disorders and the entry “others”, which referred to any diagnosis that doesn't fit into one of the above-mentioned categories (Table 2). In the same period, the age groups of patients were studied (Table 3). Also, the nature of the neoplasms according to the diagnosis by which the patient was admitted was also investigated (Table 4).

Results

1. Age, sex and number of admitted patients annually: Among the 1,462 cases that were included in this study, the overall average age of the patients was 28.3. That number didn't change by much when each year was taken separately: (2008: 27.86, 2009: 29.37, 2010: 31.16, 2011: 27.91, 2012: 29.19, 2013: 30.51).

The number of admitted male patients was 962 while for females the number was 502 patients. For each year, the number of male patients constituted most the cases (almost two-thirds for each year).

The number of patients per year was similar only during the first three years: 308, 326 and 306 in 2008, 2009 and 2010, respectively. The number of patients dropped to 228, 155 and 135 in 2011, 2012 and 2013, respectively.

2. Types of admitted cases:

The most frequent cases admitted were fractures (51%), followed by tumors and cysts (28%), wounds (5%), salivary gland diseases (4%) and TMJ-related cases (2%); 9% of the cases didn't fall under any of those categories.

As for the neoplasm cases, on admission, 9% of the cases were diagnosed as benign, 18% as malignant and 73% as neoplasms of uncertain behavior.

Discussion

The incidence of oral cancer has been reported to be high among countries of south Asia²⁾ and in many

cases, smokeless tobacco and/or betel nut chewing were the main concern as a carcinogenic material^{3,4)}. Yemen also has a population with habits that include betel nut chewing, Khat chewing⁵⁾ and Shamah (a form of smokeless tobacco) usage. In a report by Scheifele et al.⁶⁾, 100% of the cases used at least one form of Shamah. Patients suffering from oral cancers among other oral and maxillofacial conditions tend to travel from different regions of Yemen - in which smokeless tobacco or Shammah usage are common - to the capital to get medical care at the T.M.G.H. The reason behind that is the low dentist to patient ratio in general and the absence of Maxillofacial and Pathology services in most regions of the country. In 2013, an estimate of 5,500 dentists were practicing, which is 1 dentist for every 4,363 patients. There are no exact estimates for the number of oral and maxillofacial surgeons or for oral pathologists.

In this study, the diagnosis was in the form of ICD diagnosis codes, which were then converted manually. 1,251 entries were omitted from the original number of entries to obtain more reliable data. The omission was done in cases of unrelated, missing or wrongly used ICD codes. Also, repeated entries were removed.

The number of admitted patients dropped in the last 3 years of the study, which is probably the result of the difficulty of movement within the country due to the political situation in that period⁷⁾.

While most of the cases admitted to the Department were trauma cases (fractures) (51%), the 2nd most admitted category of patients suffered from either tumors and/or cysts (28%). Among these cases, patients diagnosed with malignant tumors were twice as frequent as patients suffering from benign tumors. Seventy-three % of the cases were referred to as "neoplasm of uncertain behavior" when looked up in the ICD codes. Even though no tangible data supports the following statement, we discussed this observation with the resident doctors and they conveyed that an after operative biopsy returns with the result of malignant neoplasm in its latest stages, in most of the cases that would be Squamous Cell

Carcinoma (SCC). This is not surprising since there are other studies that showed similar statements of up to 93.2% of cases to be SCC⁴⁾. However, a problem remains with this large portion of data (73%) that shows patients having a diagnosis of neoplasm of uncertain behavior, this would suggest two possibilities: the first is the inability of the Maxillofacial Department staff to obtain a definitive diagnosis before the admission of patients or second, an error was made during the data input of the patients. In both cases, more care needs to be taken to be able to get more accurate and definitive data that would resemble the actual situation of the patients.

Conclusion

Based on the data presented in this study, neoplasms in general and oral cancers in particular are the main concern for the Yemeni population. More care should be taken to prevent the occurrence of such cases, especially the carcinogenic habits of chewing smokeless tobacco and Shammah usage. Another point to be taken is that more care needs to be taken when registering the patients in the hospital and clinic records to make better use of the data and be able to make more concrete decisions based on them.

Acknowledgments

The authors would like to thank Dr. M. Al-Wahabi, Dr. Ibrahim A. and Dr. Shafiqah Mohammed for their help during acquisition of data and answering the study-related inquiries.

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