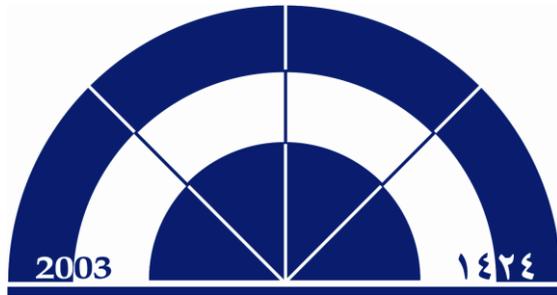


**Head and Neck Cancer in
Hadhramout-Yemen
A Five Years Experience in
Hadhramout Cancer Centre**

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Abstract

Objective: To describe the pattern and distribution of head and neck cancers among patients registered at Hadhramout Cancer Centre in Al-Mukalla city.

Patients and Methods:

This study was conducted retrospectively to describe the pattern and distribution of head and neck cancers among patients registered at the Hadhramout Cancer Centre, in Al-Mukalla, for the period from January 2006 to December 2011. Data was collected using Can-Reg program and statistically analyzed by computer SPSS program version 18.

Results:

The study included 202 patients with head and neck cancers, 132 were males (65.3%) and 70 were females (34.7%), with male to female ratio of 2:1. The mean age was 51.52 years (range: 41-60 years). The most common sites in this study are nasopharynx (42.6%), followed by larynx (13.4%) and tongue (12.9%). In males, the top three cancers are nasopharyngeal (51%), laryngeal (20%) and tongue cancers (14%), while the top three among females were nasopharyngeal (54%), gum (14.29%) and tongue (10%). The most common histopathological type is the

squamous cell carcinoma (47.5%) followed by nasopharyngeal cancers type I, II, III (41.7%) and others (10.8%) .

Conclusions:

Nasopharyngeal cancers were the most frequent HNC in Hadhramout Sector. Squamous cell carcinoma was the most common histopathology. Our results generally indicate that the pattern of our cases bear similarities with the Arab' data with some differences from the other parts of Yemen that necceciate further evaluation.

Key words:

Head and neck cancer, Squamous cell carcinoma, nasopharynx, Hadhramout, Yemen

Introduction:

Head and neck cancer (HNC) constitutes one of the most common cancers in some parts of Yemen. HNC are primary cancers that occur in different parts of the head and neck including the oral cavity, nasal cavity, paranasal sinuses, nasopharynx, oropharynx, hypopharynx, salivary glands, ears, scalp¹. About half a million new cases diagnosed worldwide annually with HNC , and their incidence increases in developing countries like Yemen, where it is ranked the fourth common cancer in both sexes^{2,3}.The incidence of HNC increases with increasing age, and is mostly diagnosed after 50 years of age. In the last two decade the incidence increased in young females. These cancers are mainly linked to the low socioeconomic conditions, making it more common among Yemenis⁴. The increased risk in Yemen may be linked partially to the exposure to some carcinogens like smokeless tobacco (Shamma and Zarda) and chewing of Qat, with some inborn or acquired individual susceptibilities.

Patients and Methods:

This study was conducted retrospectively for patients registered at Hadhramout Cancer Centre in Al-Mukalla city for the period from January 2006 to December 2011 with main objective to describe the pattern and distribution of HNC among these patients. It included 202 patients with HNC diagnosed by, histopathological, and radiological investigations. Geographical distribution was studied and divided in to two main groups: coast and valley areas,

Salivary glands, Thyroid, parathyroid, skull base, intracranial, eye, skin cancers and cancers of unknown primary origin were excluded from this study. The statistical analysis was carried out using SPSS program version 18.

Results:

A total of 202 cases of HNC were histologically confirmed in the registry. 132 were males (65.3%) and 70 were females (34.7%) (**Figure 1**), with male to female ratio of 2:1. The mean age was 51.52 years. Squamous cell carcinoma (SCC) comprised 47.5% of all studied sites, nasopharyngeal type I, II, III were 41.7%, and others include Adenocarcinomas 5.4% , sarcomas 3.5% , melanomas and juvenile angiofibromas 1.9% (**Figure 4 &5**). The majority of cases were in the age group of 41-60 years (45%) followed by the age group 61-80 years (26.7%) and the least are those aged less than 20 years and above 80 years (7.9% and 3%) respectively (**Figure 2**).

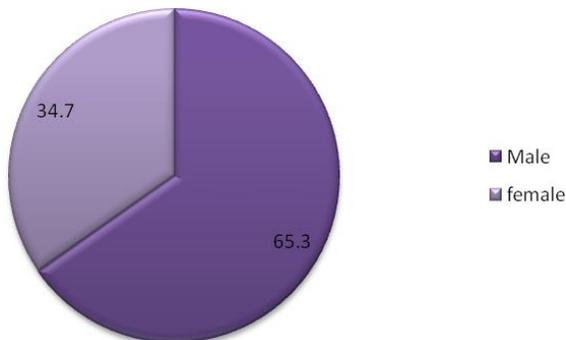


Figure 1: Distribution of head and neck cancer by gender

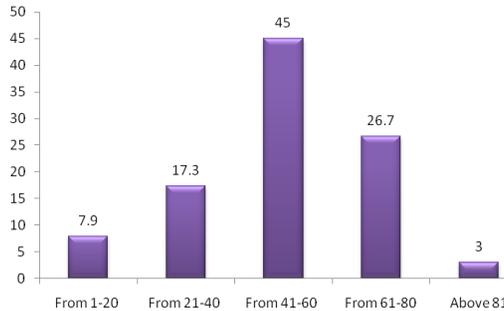


Figure 2: Distribution of head and neck cancers by age

The most common affected site was nasopharynx, accounting for (42.6 %) followed by the larynx (13.4%) and tongue (12.9 %). Nasopharynx, larynx and tongue cancers were the top three cancers among males (**Figure 3**). The majority of the cases were inhabitants of coast regions 71.78% (145), while 28.22% (57) were from the valley. There is no statistically significant differences between these two groups (coast & valley) in relation to their disease, age and sex (P= 0.4).

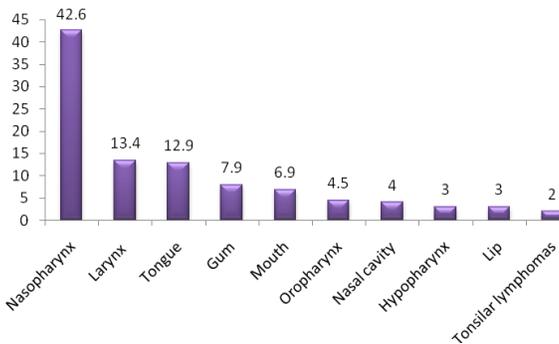


Figure 3: Distribution of head and neck cancers by topographical regions by percent

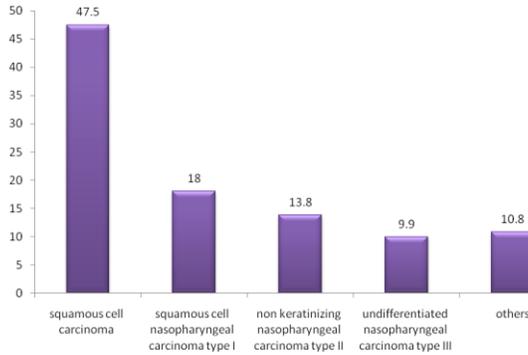


Figure 4: Histopathological distributions of head and neck cancers

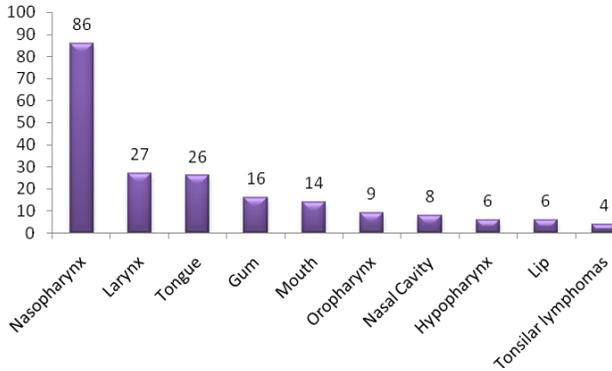


Figure 5: Number of cases with head & neck cancer

Discussion:

The worldwide incidence of HNC is mostly related to the tobacco use and alcohol consumption. The age standardized incidence rate in males exceeds 30/100,000 in region of France, Hong Kong, and the Indian subcontinent, Central and Eastern Europe, Spain, Italy, Brazil and among black Americans⁵.

The highest rate of oral cancer is found in the developing world where oral cancer is the fourth commonest site of cancer. HNC without thyroid cancers and lymphomas represents about 10% of all cancers registered in Yemen⁴. It is higher than that of the USA (5%) and Kuwait (7.4%), whereas less than 40% observed in some Asian countries¹¹. The cause of HNC is not entirely clear, but to some extent reflects social class and habits, as SCC of the upper aerodigestive tract is a smoking-related disease. Cigarette smokers have 14-fold increased risk of developing laryngeal cancer¹².

In this study, we found that nasopharynx is the most common site observed in 86 patients (42.6%), from these 10 cases (12%) were pediatric age group (younger than 18 years) and 76 cases (88%) were adults, followed by laryngeal 27 patients (13.4%) and tongue 26 patients (12.9%). The findings by site are similar to Mediterranean and other Arab countries¹³ but differ from those of Aden and USA results^{13, 17}, where the oral cavity, nasopharynx and larynx are the primary cancer site in Yemen, this may be a reflection of the lower prevalence of Qat chewing in Hadhramout sector.

HNC in Yemen are more common in adults than children, especially those aged 40-60 years which may be related to exposure to carcinogens (Qat and smokeless tobacco). In our study 74.7% of total HNC occurred in patients above 40 years of age similar results were reported by previous studies^{7,8,9,10}, this may be attributed to the high prevalence of smokeless tobacco at our region. The main

histopathological type was SCC, and the maximum prevalence was seen 5th to 6th decade. Similar high incidence of SCC was reported from southern Saudi Arabia¹⁴. Soufi et al observed, that oral cancers in the Asir region of Saudi Arabia occurs mostly among patients who have been chewing Qat for long period of time. Chewing Qat, shamma and zarda (snuff and chewing) are considered among the risk factors in cancer of the mouth in Yemeni patients. Frequent localized traumas and mucosal ulcerations due to Qat, shamma and zarda may provide an entrance for chemical or viral carcinogens to enter the tissue¹⁶. And allow the penetration of these harmful substances.

Recommendations:

1. Further studies are required in Yemen to determine risk factors for these cancers especially oral cavity, nasopharyngeal and their relation with use of Qat, shamma and zarda.
2. Considering oral hygiene screening necessary and regular free of cost for all consumers of Qat, Shamma and Zarda, with support of world health organization (WHO) and Yemeni Ministry of Public Health & Population.
3. HNC are among the common health problems affecting Yemeni patients and recommended further nationwide studies to determine the real incidence and international support to eradicate the risk factors associated with such cancer.

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