Prevalence of squamous cell carcinoma in a defined population in Iran over the last 10 years

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ABSTRACT

Squamous cell carcinoma (SCC) of head and neck is a major health problem worldwide. It is the most prevalent oral malignancy in Iran as well as other geographic regions. Therefore the purpose of conducting this study was to sum up and summarize the existing data and determine the prevalence of Oral SCC (OSCC) in a referral center of medical faculty.30000 records of patients referred to an academic dermatologic clinic were analyzed and their information was categorized in order to get to a general view of this high prevalent malignancy.40 (0.13%) patients were diagnosed with OSCC: 27 (67.5%) male and 13 (32.5%) female with the mean age of 57.5, the most prevalent affected site was tongue : 19 cases (47.5%) , the most common feature was ulcer : 16 cases (40%) , 32 cases (80%) of the patients were smoker , and positive familial history was seen in 3cases (7.5%) of patients. 26 cases (65%) had studied up to primary school. combination therapy was the principle treatment plan which had been performed in 28 cases (70%) . By gathering the existing data of OSCC comprehensive information regarding age, gender, education, site, risk factors, clinical manifestations, therapeutic options, curative modalities, prognosis and survival is gained and a valuable aid in early detection can be achieved.

INTRODUCTION

Squamous cell carcinoma (SCC) (Pickle cell epithelioma, epidermoid carcinoma) is the most common malignant disease in the oral cavity. [1]   It originates from epidermis and is more prevalent in sun exposed area. [2] Oral SCC is the sixth most common cancer which composes 3% of all cancers. [3] It is the most prevalent oral malignancy in Iran as well as other geographic regions[1] Its distribution and occurrence varies by age ,ethnic group, culture , life style and level of country development[4,5] .The main risk factors include: over 50, male patients, white skin , light brown hair , geographic region (near equator), positive history of a non-melanotic skin cancer, contact with chemical toxins (tar and arsenic) ,UV exposure, positive history of radiotherapy, smoking, chronic immunosuppression , chronic ulcers , some genodermatoses and HPV infections [6,7]. It has remarkable morbidity and treatment costs.[8] since early detection of

malignancies may improve prognosis, it is important to provide reliable data on prevalence of OSCC. Therefore the purpose of conducting this study was to review the existing data of SCC in patients attending a central dermatology clinic so that to reach to a general view regarding different aspects of this malignancy.

MATERIALS AND METHODS

In a descriptive study of existing data 30000 records of patients attending central dermatology clinic of Skin Research Center, Tehran, Iran were investigated. All of the recorded files were reviewed carefully one by one and among all files, those which had been diagnosed with OSCC were selected. Diagnosis of OSCC was confirmed on the basis of the biopsy results. The essential information which were derived from the archives of records consisted of: demographic information , age at disease onset , gender , place of birth ,education, clinical feature of the lesion , site of involvement , results of clinical and Para clinical

examinations, existence of co-lesions , and treatment .The process of investigating the recorded files was performed by a senior medical student. The gathered data were analyzed by the 15th version of SPSS statistical software.

RESULTS

40 (0.13%) patients had been diagnosed with OSCC. Among these, 32.5% were female and 67.5% were male. The minimum and maximum age of patients was 20 and 89 respectively and the mean age was 57.5 . The most common age for OSCC was from 50 to 59 in both genders .22.5% of patients were older than 60 and 5% younger than 40 .60 % of the patients were married, 15 % were single, 20% were widowed and 5 % divorced. Among the subjects 25% were illiterate, 65% had received primary school education, and 10% had received university education.7.5% of the patients had a positive familial history of oral cancer and this item was negative in the rest of the patients. We found that 80% of the patients were smoker and 20% reported alcohol use. The most common involvement site was tongue (47.5%) in both genders and then lip (30%), alveolar ridge (12.5%) ,palate (7.5%) and gingival (2.5%) revealed more prevalence. The most common clinical feature of the lesion was an ulcer (40%) followed by tumor (17.5%) and plaque(15%). Other clinical features were: nodule (12%) , erosion (10%) , crust(5%). Surgery was the principle treatment plan in 30% of the patients but combination therapy had been applied for the rest 70%.

Table 1.Socio-Demographic and clinical characteristic of the study population

DISCUSSION

By considering the affected population in different geographic regions such as Brazil[6], Denmark, Argentina, Taiwan, Thailand and Iraq some similarity in some aspects of this malignancy is revealed .[10-14]

One of the common points is the age at diagnosis (around 60) [6,10-13].In all mentioned studies the mean age of patients diagnosed with OSCC was around 60 except in Iamaroon [6] which the aim of their study was delineating the profile of cases of OSCC with an emphasis on younger population. The difference in their results regarding age of the patients may be due to their sample group [6].

Another matter to be discussed is the most common involvement site. The results of our study is in concordance with Liewellyn[10],Pinholt [11], Morelatto[12] and Iamaroon[6] which all these researchers have reported tongue as the most common site but Su[12] and Perriman[13] have reached to different results: mandibular alveolous and buccal mucosa respectively.

In all studies smoking and alcohol intake have been noticed and repored as a major risk factor and Su [12] claims that betel quid chewing is responsible for the high prevalence of OSCC in buccal mucosa in his study.

The most common reported clinical feature of OSCC in all studies was "ulcer" [6,11-14].

The fact that the majority of patients` education was limited to primary school may be a definition for probable neglect of the initial lesion in the mucosa and delay in cure search. Perriman[14] highlights the level of education in his study in the way that the majority of the patients had been from low socio-economic group and rural areas. In other studies high risk habits

Table 1. Socio-Demographic and clinical characteristic of the study population

Gender	Frequency	percentage
Male	27	67.5%
Female	13	32.5%
Age		
<40	2	5%
40-49	11	27.5%
50-59	18	45%
>60	9	22.5%
Marital Status		
Single	6	15%
Married	24	60%
Divorced	2	5%
Widowed	8	20%
Level of Education		
Illiterate	10	25%
primary school	26	65%
Academic	4	10%
Habits		
smoking	32	80%
alcohol	8	20%
other materials	0	0%
History of Oral Cancer		
positive	2	5%
negative	38	95%
Familial History of Oral Cancer		
Positive	3	7.5%
negative	37	92.5%
History of Metastasis		
positive	1	2.5%
negative	39	97.5%
Affected site		
lip	12	30%
tongue	19	47.5%
Alveolar ridge	5	12.5%
gingiva	1	2.5%
palate	3	7.5%
Clinical Feature		
plaque	6	15%
nodule	5	12.5%
tumor	7	17.5%
crust	2	5%
ulcer	16	40%
erosion	4	10%
Treatment Plan		
surgery	12	30%
Only radiotherapy	0	0%
Only chemotherapy	0	0%
combination therapy	28	70%

such as smoking and drinking has been emphasized on as much more important contributor factors.[6.11-13]

A fact to be noticed is that the results of this study showed that the prevalence of oral cancer in the study population was 0.13% which is in close relation with the prevalence of breast cancer in Iran (0.15%) according to Rezaianzade.[14] Since this study was conducted in a specific group of Iran`s population, further investigations on the general population are needed to determine the prevalence of OSCC in a more general population.

CONCLUSION

Complete patient`s documents when put together provide valuable aid in considering different aspects of the malignancy and as a result early detection leads to better prognosis by etiology oriented-therapy.

Conflicts of interest: none declared

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