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RESEARCH ARTICLE

EPIDEMIOLOGICAL PROFILE OF ORAL CANCER IN CHU IBN ROCHD - CASABLANCA - MOROCCO: ABOUT 83 CASES.

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Oral Cancer, squamous cell carcinoma, tobacco and alcohol.

Abstract

Objectives: We would like to launch the epidemiology of oral cancer in Casablanca - Morocco and target the type of tobacco which brings about the greatest part of oral cancer

Methods: An epidemiological study was conducted in Casablanca (Morocco) from the 1st of January 2011 to the 1st of January 2012, at the Oncology Center, the Centre of Consultation and Dental Treatment, the Centre of Otorhinolaryngology and Maxillofacial department. Data collection form helped us to collect the necessary information.

Results: The collected total was 83 patients with oral cancer. 92.8% of patients are over 40 years. 68.7% of patients are males. 56.6% of patients are cigarette smokers. 38.3% of patients are alcoholics and smokers. 96.4% of patients have squamous cell carcinoma.

Conclusions: From these findings, the epidemiological profile of patients with oral cancer in Morocco is closer to the Western profile which is mainly caused by tobacco and alcohol.

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Introduction:-

Oral Cancer is a part of Aero Digestive Tract Cancer Superior. In Morocco, according to the cancer register of Casablanca (2005-2007), it represents 30% of head and neck tumors and 1.77% of total cancers (1). It is more than 90% of squamous cell carcinomas. Men between 50 and 70 years are the most concerned, although, a rejuvenation and feminization of the affected population have been recently seen (2). Nowadays and in general terms survival is approximately 30% in 5 years and from 5 to 10% in 10 years.

Tobacco leads to 90% of oral cancers. Tobacco smoking is a known cause of oral cancer, pharynx and larynx. Epidemiological studies have shown that alcohol is a co-factor of oral cancer, oropharynx, hypopharynx and larynx. Tobacco and alcohol poisoning is often accompanied by poor oral hygiene. Tobacco is the initiator and alcohol is the promoter (3-5).

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In the West, the epidemiological profile of oral cancer is that of an elderly male patient who is addicted to alcohol and smoking (6-8). Unlike the West, the epidemiology of oral cancer in Senegal has shown that a middle aged female patient, who neither smokes nor drinks alcohol has a poor oral hygiene (9). In Morocco, according to official medical sources (2005-2007) several of data are missing or incomplete(1). We would like to launch the epidemiology of oral cancer in Morocco and target the type of tobacco which brings about the greatest part of oral cancer.

Materials And Methods:-

The epidemiological study was conducted from the 1st of January 2011 to the 1st of January 2012, at the Oncology Center, the Centre of Consultation and Dental Treatment, the Centre of Otorhinolaryngology and Maxillofacial department.

Data collection forms helped us to collect the necessary information including: sociodemographic characteristics (name, age, sex, health), addiction (tobacco poisoning, type and amount smoked, duration of poisoning and alcohol), the localization of the cancer and its type (anatomopathological findings and TNM classification). This information has been given to all of the above centers.

Statistical analysis was performed using theepi info 6.04d.

Results:-

Table 1:- Summary Table of socio demographic characteristics

Characteristics	n	%
Sex		
Male	57	68.70%
Female	26	31.30%
Age		
>20 years	01	1.20%
20-40 years	05	6%
<40 years	77	92.80%
Income		
Low	61	73.50%
Medium	20	24.10%
High	02	2.40%
Study level		
No		
Primary	41	49.40%
Secondary	24	28.90%
University	18	21.70%
	0	0%
Family history of cancer		
Yes	02	2.40%
No	81	97.60%

The collected total was 83 patients with oral cancer. 60.2% are taken from the Oncology Department. The socio-demographic data show that 92.80% of patients are over 40 years and 68.7% of patients are males(Table 1).

Table 2:-Distribution of patients according to the type of tobacco smoked

Toxic habits	n	%	Average/ day	Duration (years)
Cigarette	47	56.60%	20.40	27.50 (pack-years)
Alcohol	18	21.70%	1.16	15.38
Hashish	7	8.40%	3	13.57
Kif	6	7.20%	5.66	13.50
Chewing Tobacco	1	1.20%	3	20
Snuff	1	1.20%	10	1

Table 3:-Distribution of patients according to the alcoholics and smokers

Variables	N	%
Tobacco	47	56.60%
Alcohol	18	21.70%
Alcoholic and smoker	18	38.30%

As far as addiction in our sample is concerned, 56.6% of patients are tobacco smokers, among whom 8.4% smoke Hashish, (7.2%) use Kif, (2.4%) snuff and chew tobacco. 38.3% of patients are alcoholics and smokers. One patient (5.55%) is female (Table 2) and (Table 3).

Table 4:- Distribution of patients according to the localization of oral cancer

Site	n (%)	N (%)
Lip		25 (30.10%)
Upper	3 (12%)	
Lower	20 (80%)	
Corner of the mouth	2 (08%)	
Tongue		20 (24.10%)
Lateral edge	18(90%)	
Ventral face	1(05%)	
Dorsal face	1(05%)	
Gum		12 (14.50%)
Upper	5 (41.7%)	
Lower	6(50%)	
Upper and Lower	1(08.3%)	
Cheek	12 (14.50%)	12 (14.50%)
Floor of mouth	9 (10.80%)	9 (10.80%)
Palatale		9 (10.80%)
Hard	4(44.4%)	
Soft	4 (44.4%)	
Hard+ soft	1 (11.1%)	
Retro-molarregion	9	9 (10.80%)
Other site		
Lung	1	1 (1.20%)

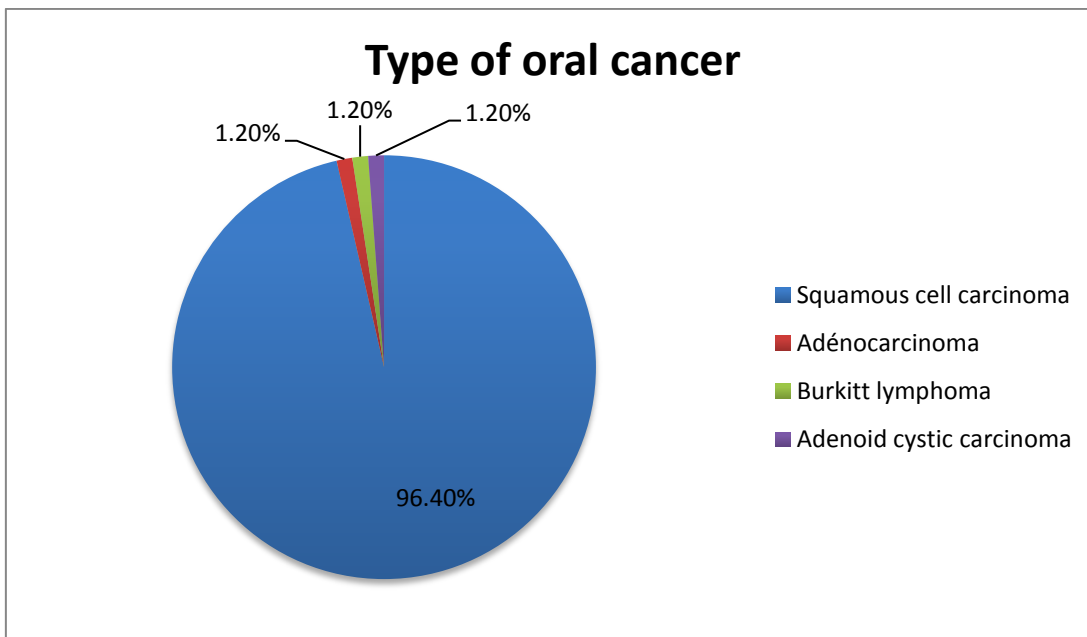


Fig.1:- Distribution of patients according to the type of oral cancer

The study showed that the main localization is in their lips (30.10%) and tongues (24.10%), oral mucosa (14.50%), gingival mucosa (14.50%), palatal (10.80%), Mouth Floor (10.80%) and the retromolar region (10.80%). The study also showed that the overall number according to 96 localizations in 83 patients was only one localization in 72 patients (86.74%), two localizations in 9 patients (10.84%) and three localizations in 2 patients (2.41%) (Table 4). 96.4% of patients with squamous cell carcinoma and 84.34% are well differentiated (Fig.1).

Discussion:-

For the distribution of patients according to the age, our results are similar to a study conducted in France. It showed that oral cancers rarely happen before the age of 35, and that the incidence increases from the age of 40 and reaches its peak between 65 and 70 years (9-13).

The study showed that the incidence of oral cancers in men is higher than in women with a sex ratio of 1.79. Similarly, a study in Burkina Faso showed that there is a male predominance with a sex ratio of 2.0 (14,15). In men, the incidence of oral cavity and pharyngeal cancers is high in western and southern Europe, whereas oral cavity cancers have a higher incidence in south-east Asia, southern Africa and Australia. In women, pharyngeal and oral cavity cancers have a relatively high incidence in south-central Asia and oral cancers have a higher rate in south-east Asia and Australia (16).

Our study showed that 43.4% of patients were non-smokers, while the others (56.6%) all smoke tobacco. Among the latter, 8.4% smoke Hashish, 7.2% take Kif, 2.4% snuff and chew tobacco.

Tobacco leads to 90% of oral cancers. its contribution appears smaller in women. The risk is determined by the dose of the carcinogenic (number of cigarettes smoked) and the time of smoking. The dose-effect is constant between the number of cigarettes smoked and the risk of developing head and neck cancer (17,18,19).

The tobacco chewing (small bag of tobacco put into the mouth) is practiced primarily in Sweden and the United States and in other countries around the world including Morocco. The user puts an amount of tobacco between his lower lip and teeth (from 10 to 30 min) and swallows the juice and spits the surplus. The risk of cancer caused by this practice is not yet clear (20). But repeated chemical attacks by friction can cause painful sores or ulcers (18, 21). The correlation between cannabis use and the occurrence of cancer is not yet clear. Cannabis is used as "herb" - or as a resin made by mixing dried leaves and resinous tops of female plants - (Marijuana) or resin secreted by the flowering tops (Hashish). The resin is always smoked with tobacco. The herb is consumed pure or mixed with tobacco (Kif). The use of "Sebsi" (a small tube in which tobacco is put to be smoked) in Morocco favours lip localization. The simultaneous use of tobacco and cannabis makes it difficult to know the effect of cannabis but trials run on smoking machines (22) have shown that smoking marijuana regardless of its mode of use, contains 6 to 7 times more tars and carbon monoxide than the manufactured cigarette and that the resin is associated with the tobacco inhaling benzene 2 times and 3 times of toluene. That is to say, three cannabis cigarettes are equivalent to one packet of manufactured cigarettes.

In our study, 21.7% drink alcohol. According to the literature, this is the 2nd factor which can cause oral cancer (23). All types of alcohol (wine, spirits, beer ...) contribute to increasing the risk, as well as the dose of pure alcohol contained in beverages without threshold effect (18). Epidemiological data show that for oral and pharynx cancers, the risk is multiplied by 2 for a daily consumption of 25g of pure alcohol, by 3 for 50g and by 6 for 100g (24). In our study, the simultaneous use of alcohol and tobacco affect mainly the tongue (13.63%), the lip, the floor and the retromolar part. In terms of literature, for the alcohol drinkers, cancer of the lateral edge of the tongue is less common than other cancers of the tongue (including the base of the tongue), and cancer of the mouth floor is two times more common than that of the cheek (25).

The effects of tobacco and alcohol do not add up but multiply (3). This synergy is expressed by a 6-fold increased risk for a person who smokes more than 25 cigarettes and drinks less than 35 g of alcohol per day compared to someone who does not smoke and drink less than 35g of alcohol. The risk is multiplied by 103 for the person who smokes more than 25 cigarettes and drinks on average 100g of pure alcohol per day (26). Kumar R and al, suggest that alcohol, tobacco and high-risk Human papilloma virus infection act synergistically or complement each other in the process of Head and Neck Cancers development (27).

In our study, we have a decrease in the frequency of different types of tobacco (chewed, Snuffed and smoked), and this may be due to either the patient's withholding of information or the consumption of this type of tobacco is lower in Casablanca and its suburbs. This requires us to conduct similar surveys around areas where the production of the different types of tobacco is high.

The study showed that the main localization is in their lips (30.10%) and tongues (24.10%). In Australia, there is a high rate of lip cancer due to solar radiation(28). A Retrospective Study of 740 Cases in a Brazilian Population, showed that squamous cell carcinoma (SCC) were found principally on the tongue(29).

The study showed 96.4% of patients with (SCC). According to the literature, SCC accounts for 90–95% of tumours. Other tumours include minor salivary gland tumours, lymphomas and rare tumours such as melanomas, liposarcomas, rhabdomyosarcomas (30).

In conclusion, the epidemiological profile of the patient who has cancer in the oral cavity in Casablanca - Morocco is closer to the Western profile whose main causes are tobacco and alcohol. The results of the topographic distribution of cancers of the oral cavity by the toxic habits are not sufficient to draw generalized conclusions.

References:-

1. Registre des cancers de la région du grand Casablanca 2005-2007 http://www.contrelecancer.ma/site_media/uploaded_files/RCRC_-_28_mai_2012.pdf
2. Roche J. Smoking in the elderly. NPG Neurologie - Psychiatrie - Gériatrie2008;8:3-8
3. Carbonneau MA, Carbonneau A, François H. Critical analysis of the National Institute of Cancer report "Alcohol and risk of cancers": What are the questions that should be raised ?. Cahiers de Nutrition et de Diététique2009;44:239-45
4. Tsantoulis PK, Kastrinakis NG, Tourvas AD, Laskaris G, Gorgoulis VG. Advances in the biology of oral cancer. Oral Oncol.2007;43:523-34
5. Aupérin A, Hill C. Epidemiology of head and neck carcinomas. Cancer Radiother. 2005;9:1-7
6. Badoual C, Péré H, Cros J, Roussel H. Head and neck squamous cell carcinoma: What's new in 2009. Ann Pathol. 2009;29:265-73
7. Lebargy F, Becquart LA, Picavet B. Epidemiology of tobacco consumption. Assistance for stoppage EMC - Medecine2005;2:171-90
8. Barthélémy I, Sannajust JP, Revol P, Mondié JM. Oral cancer. Preamble, epidemiology, clinical study. EMC-Stomatologie2005;1: 277-94
9. Toure S et al. Profil épidémiologique des cancers de la cavité buccale au Sénégal. Revue de Stomatologie et de Chirurgie Maxillo-faciale2005;106:68
10. Remonter L, Buerni A, Velten M, Jouglu E, Estève J. Evolution de l'incidence et de la mortalité par cancer en France de 1978 à 2000. (rapport) Institut de veille sanitaire, Saint-Maurice. Août 2003;218p
11. Goura KR, Ajeet KG. National cancer control and registration program in India. Indian J Med Paediatr Oncol. 2014;35:288-290
12. McGorray SP, Guo Y, Logan H. Trends in incidence of oral and pharyngeal carcinoma in Florida: 1981-2008. J Public Health Dent. 2012;72:68-74
13. Sheng Han et al. Epidemiology and cost analysis for patients with oral cancer in a university hospital in China. BMC Public Health. 2010;10:196
14. Cann CI, Fried MP, Rothman KJ. Epidemiology of squamous cell cancer of the head and neck. Otolaryngol. Clin. North Am. 1985;18:367-388
15. Ouoba K et al. Les cancers orl et cervico-faciaux au Burkina Faso : épidémiologie, problèmes de diagnostic et de prise en charge a propos de 217 cas. Médecine d'Afrique Noire 1997;44:8-9
16. Dechen W, Tshering V, Peter Z, Harriet CT. Cancer of the oral cavity and oropharynx. Cancer Imaging. 2010;10:62-72
17. Stewart BW, Kleihues P. Le cancer dans le monde. IARC. Press Lyon 2005; 364p.
18. Edith JF et al. Higher incidence of head and neck cancers among vietnamese american men in california. Head Neck. 2010;32:1336-44
19. Loyha K, Vatanasapt P, Promthet S, Parkin DM. Risk Factors for Oral Cancer in Northeast Thailand. Asian Pac J Cancer Prev. 2012;13:5087-90
20. Macfarlane GJ et al. Alcohol, tobacco, diet and the risk of oral cancer: a pooled analysis of three case-control studies. Eur j cancer b oral oncol.1995;31b:181-7

21. Sharan RN, Mehrotra R, Choudhury Y, Asotra K. Association of Betel Nut with Carcinogenesis: Revisit with a Clinical Perspective. PLoS ONE. 2012;7:e42759
22. Zhang Zf et al. Marijuana use and increased risk of squamous cell carcinoma of the head and neck. Cancer epidemiol biomarkers prev. 1999;8:1071-8
23. Brown LM. Epidemiology of alcohol-associated cancers. Alcohol. 2005;35:161-8
24. World Advertising Research Center (2004) World Drink Trends 2004. Oxfordshire: World Advertising Research Center Ltd.
25. Brugere J, Guenel P, Leclerc A, Rodriguez J. Differential effects of tobacco and alcohol in cancer of the larynx, pharynx and mouth. Cancer. 1986;57:391-5
26. Franceschi S et al. Comparaison of the effect of smoking and alcohol drinking and between oral and pharyngeal cancer. Int J Cancer.1999;83:1-4
27. Kumar R et al. Alcohol and Tobacco Increases Risk of High Risk HPV Infection in Head and Neck Cancer Patients: Study from North-East Region of India. PLoS One. 2015;10:e0140700
28. Dechen WTV, Peter Z, Harriet CT. Cancer of the oral cavity and oropharynx. Cancer Imaging. 2010;10:62-72
29. Gervásio OL et al. Oral squamous cell carcinoma: a retrospective study of 740 cases in a Brazilian population. Braz Dent J. 2001;12:57-61
30. Stambuk HE, Karimi S, Lee N, Patel SG. Oral cavity and oropharynx tumors. Radiol Clin North Am. 2007;45:1-20.