



International Journal of Applied Dental Sciences

ISSN Print: 2394-7489
ISSN Online: 2394-7497
IJADS 2019; 5(4): 293-296
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www.oraljournal.com
Received: 15-08-2019
Accepted: 19-09-2019

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Evaluation of oral cavity cancers frequency in patients attending dentistry and maxillofacial surgery service of Kinshasa university hospital (Democratic Republic of the Congo): A cross-sectional study

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Abstract

Oral cavity cancers is among the most debilitating and deadly diseases in the world. The recent and accurate data on these conditions are of great importance for a good strategy to fight especially in the third world countries where data are scarce for lack of cancer registered in many countries. The aim of the present study was to evaluate the frequency of oral cavity cancers in patients attending dentistry and maxillofacial surgery service of Kinshasa university hospital in Democratic Republic of the Congo. A cross-sectional descriptive study was conducted from January 2001 to December 2015. The patients were recruited on the basis of oral cancer confirmed histologically during the period of study. Data were collected through survey questionnaire containing socio-demographic variables (sex and age), clinical variables (oral hygiene, lifestyle: alcohol and tobacco, tumor localization and tumor stage) and analyzed by using Microcal Origin 8.5 Pro software. Results revealed that the incidence of oral cancer was low at 1.8%. The male sex was most represented with a sex ratio of 1.8. The average age was 47.8±18.9 years. Alcohol and tobacco association was the main risk factor with 33.3% of cases. The majority of patients had poor oral hygiene (68.1% of cases), and squamous cell carcinoma was more represented 74.7%. The mandible was the main location of oral cancer (60.7% of cases). Most oral cancer cases were diagnosed at the T4NxMx stage (38.4%). Cancer is a real health problem in our environment, and squamous cell carcinoma was the most diagnosed cancer.

Keywords: oral cavity cancers, dentistry, maxillofacial surgery, Kinshasa university hospital

1. Introduction

Cancers of the oral cavity is the sixth cancer the most common in the world ^[1]. It is devastating with effects on chewing, swallowing and phonation ^[2]. The distribution of oral cancer varies from one region to another. The Indian subcontinent has the highest incidence about 11 % of all human cancers ^[3]. In the US, oral cancer had represented 2.9% of all cancers diagnosed ^[4]. In France, 12 060 new cases are cancers of the upper aero-digestive tract were diagnosed in 2017 with 66% of men and 32% of women ^[5]. Africa has a low incidence of oral cancer. In Kenya, a study revealed an impact of 3.6% ^[6]. In South Africa, the incidence of oral cancer forestay in 2001 was 3% of the all human cancers ^[7]. The Republic Democratic of Congo has no cancer registries so far at the national level, identifying oral cancer a study histopathological dating back to 1998 had reported incidence of 2, 1% of oral cancer ^[8]. The aim of this study was to determine the incidence of oral cavity cancer at the dental and maxillofacial surgery service Kinshasa University hospital.

2. Materials and Methods

A retrospective cross-sectional study was carried out on the evaluation of oral cavity cancer frequency in patients attending Dentistry and Maxillofacial Surgery Service of Kinshasa University hospital (Democratic Republic of the Congo) from January 2005 to December 2015. The data were collected through survey questionnaire containing socio-demographic variables (sex and age), clinical variables (oral hygiene, lifestyle: alcohol and tobacco,

tumor localization and tumor stage) and analyzed by using Microcal Origin 8.5 Pro software. Inclusion criteria were all files patients admitted to the above service during the period of study and who developed a confirmed histological oral cancer while, exclusion criteria were all records of admitted patients with benign tumors.

3. Results and Discussion

On a total of 7629 patients that had consulted the Service of Stomatology and Maxillo-Facial Surgery, 135 cases (1.8%) had been diagnosed with oral cancers. The masculine sex was the most predominant in this survey with 86 cases (or 63.7%) against 49 cases (or 36.3%) of the women with a sex-ratio H/F of 1.8 (figure 1).

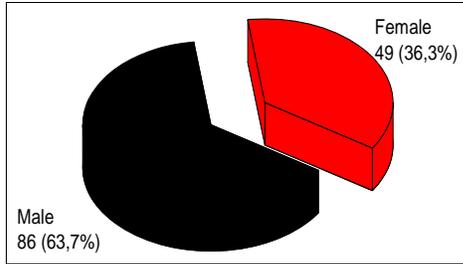


Fig 1: Distribution of patients by sex

The figure 1 gives the distribution of patients according their age.

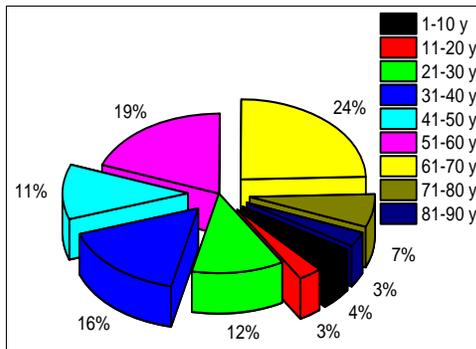


Fig 2: Distribution of patients by age

The figure 2 shows a predominance of the age group between 60-69 years which represent 24.4% and the average age of patients was 47.8 ± 18.9 years.

The figure 3 gives the distribution of patients according risk factors and revealed that in majority of patients, alcohol and tobacco were the most risk factors of cancer representing 33% of cases.

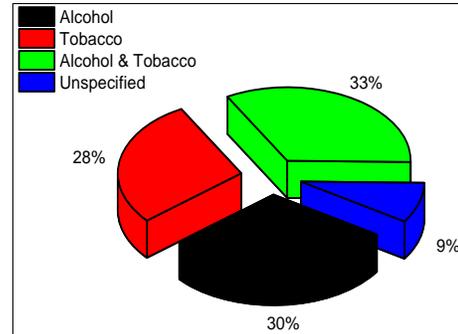


Fig 3: Distribution of patients according to risk factors

The figure 4 gives the distribution of patients according to oral hygiene. This figure revealed that in most of the cases, cancer occurs as result of bad oral hygiene.

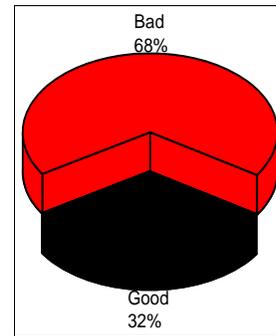


Fig 4: Distribution of patients according to oral hygiene

The figure 5 gives the distribution of patients according to type of cancer. The result of the present survey revealed that squamous cell carcinoma was the most common type of cancer in patients (74.1% of cases).

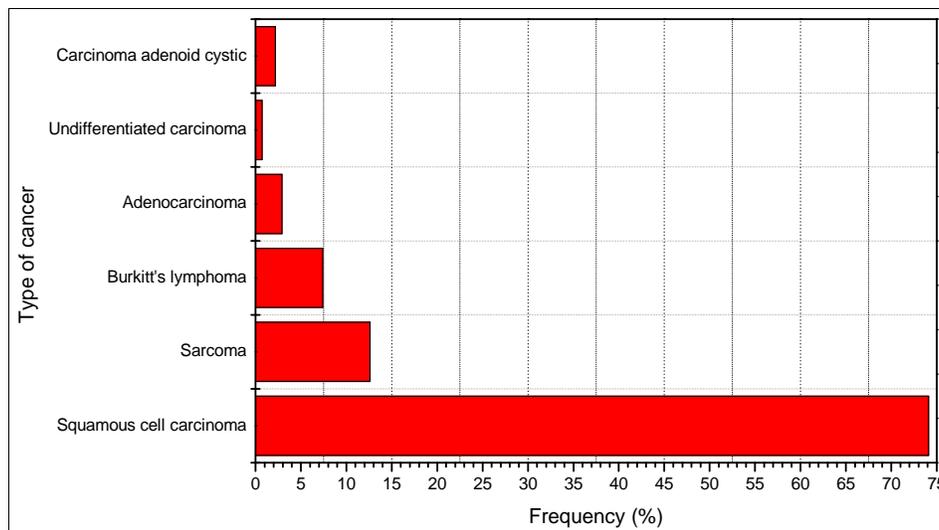


Fig 5: Distribution of patients according to type of cancer

The figure 6 gives the distribution of cancers by topography and revealed that 34.8% of cancer cases were localized at the level of the mandible followed respectively by maxillary (24.4%), palate (14.8%), tongue (8.1%), cheek internal face and lips (7.4% each) and gum (3%).

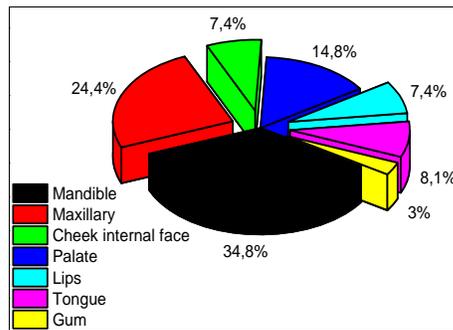


Fig 6: Distribution of cancers by topography

The figure 7 gives the distribution of cancers by tumor stage and shows that the majority of cancers (38.4% of cases) were discovered at the T₄N_xM_x stage.

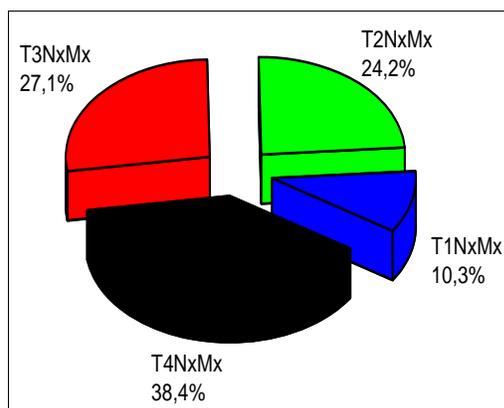


Fig 7: Distribution of cancers by tumor stage

The frequency of cancer of the oral cavity was of 1.8%. This result corroborates with those of Kayembe & Kalangay [8]. The same low frequency of the cancers cavity mouth is also confirmed in many other Sub-Saharan countries [6, 7]. This frequency is relative because many patients affected by oral cancer cannot afford hospital fault average Financial particularly in third world countries whose patients have difficulties to have access to oral cares [9]. The male sex was the most affected with 63.7% with a sex ratio of 1.8. This male was also reported in literature by Chidzonga in 2006 [10] and Camargo 2010 [11]. Toure *et al.* in 2008 in Senegal found predominance of female [12]. Similarly, Bambara *et al.* 2015 in Burkina Faso had found also female predominance [13]. The predominance of male could be explained by the adoption of a western lifestyle in the developing country and leading a high consumption of tobacco and alcohol as well as sedentary. The average age in this study was a 47.8±18.9 year corroborating thus the study of Odukaya [14]. This would mean that cancer of the oral cavity is increasing among young people in response to intoxication with both alcohol and tobacco [15].

Tobacco use (28.1%) and alcohol alone (21.6%) or combined (33.3%) were found in the majority of patients developing oral cancers. However, alcohol and tobacco are the main risk factors for cancers of the aero-digestive tract [16-18].

The majority of cancer patients in the oral cavity had a poor oral hygiene (68.1%), this confirms the studies of several authors who have demonstrated the direct role of this factor in the outcome of oral cancer [19, 20]. This situation could be explained by the negligence of dental care by alcohol-smoking patients.

Squamous cell carcinoma was the most common oral cancer (74.7%) [21]. The majority of cancers were localized in the mandible (34.8%) followed by maxillary (24.4%). This corroborates the studies of Touré *et al.* in Senegal [11] and Chidzonga *et al.* in Zimbabwe [10]. While Hua Xi *et al.* found a predominance of cancers in the oral cavity followed by the medulla and mandible [22].

Most tumors were diagnosed at a very advanced stage: T₄N_xM_x (37.8%) and T₃N_xM_x (27.4%). This very high percentage could be explained in the context where many of the patients consult the doctors only in case of the aggravation of the pathology that because of the lack of means. In addition, this delay in consultation is also justified by the mystical belief of the population that cancer is a bad spell cast by a wizard [23].

4. Conclusions

The aim of the present study was to evaluate the incidence of oral cavity cancer at the dental and maxillofacial surgery service Kinshasa University hospital. Results indicate that oral cancers are affecting more men with a sex ratio 1.8. Alcohol-toxic intoxication associated with poor oral hygiene was the main risk factor. Squamous cell carcinoma was more diagnosed and especially at the T₄N_xM_x stage. The mandible is the main location of cancers.

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