

CLINICOPATHOLOGICAL PROFILE OF ORAL SQUAMOUS CELL CARCINOMA CASES IN A TERTIARY CARE HOSPITAL OF LAHORE

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ABSTRACT

Objective: To determine the clinicopathological profile of oral squamous cell carcinoma (OSCC) cases.

Methods: This retrospective study was carried out at the Morbid Anatomy and Histopathology / Oral Pathology Department of Post Graduate Medical Institute (PGMI), Lahore. Relevant clinicopathological data of 71 cases of OSCC reported between February, 2014 to September, 2015 was collected. SPSS 21.0 was used for analyzing the data. Mean was calculated for quantitative variables while frequencies and percentage were calculated for qualitative variables .

Results: Out of 71 OSCC patients, 76.1% were above 40 years and maximum number of patients 23(32.39%) were in the sixth decade. Mean age of the OSCC patients was 53 years. A male to female patient ratio of 1.84:1 was seen. The commonest site of OSCC development was the tongue. Histopathologically, moderately differentiated OSCC (grade II) cases were maximum in number ie. (66.32%). Among the studied cases, 8 were recurrent OSCC cases and 6 cases had lymph node metastasis.

Conclusion: OSCC is a major health delimma. Measures should be taken for awareness regarding prevention, early diagnosis, management and follow up of oral cancer.

Key words: Oral squamous cell carcinoma, Clinicopathological Profile.

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INTRODUCTION

Oral cancer has exhibited an alarming rise in incidence in the past decade. It comprises almost three percent of all the malignancies around the globe ^[1]. After stomach and cervical cancers it is the third most frequent cancer in the developing world ^[2]. Nearly one third of the global oral cancer cases are reported in IndoPak subcontinent^[3]. It is the second most common malignancy in either gender in Pakistan^[4]. The most common oral cancer is squamous cell carcinoma, as it constitutes 94% of all carcinomas of oral cavity^[5].

Mostly oral squamous cell carcinoma (OSCC) is preceded by or originates from a premalignant lesion or condition and is seldom de novo; but in both situations it arises within the area of the precancerized epithelium^[7].

Soft tissues of the oral cavity like tongue, alveolar mucosa, gingival mucosa, hard and soft palates, oropharynx, tonsils and floor of mouth are commonly involved anatomical sites ^[8]. Floor of mouth and ventral surface of tongue both being lined by a thin nonkeratinized epithelium are most frequently involved ^[9]. It often arises after the fourth decade but the peak age of carcinoma development is sixty years^[10]. Excessive exposure to the OSCC risk factors is culprit for its higher incidence in males as compared to females (M:F = 1.5:1) ^[11]. The eminent risk factors for OSCC are cigarettes and smokeless tobacco, alcohol, chronic infection, immunosuppression, viruses, betel quid chewing common in various ethnic populations and a diet deficient in vegetables and fresh fruits^[7,12,13]. Precancerous lesions, invasion and metastasis are three main steps of oral cancer development^[6]. In its initial stages, tumor can go unobserved ^[14]. At the time of diagnosis, most of the OSCC patients are at stage (III-IV) of the tumor and nearly one third of them have lymph nodes involvement. Nearly fifty percent of the individuals present with recurrences after treatment and eighty percent do so in two years^[15]. The aggressiveness of a tumor is dictated by its histological grade and there

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is an obvious association between the grade and cure rate, metastatic potential and stage of the disease^[16].

The present study was conducted with the aim of determining the clinicopathological profile of Oral squamous cell carcinoma cases reported at a tertiary care hospital of Lahore, Pakistan.

METHODS

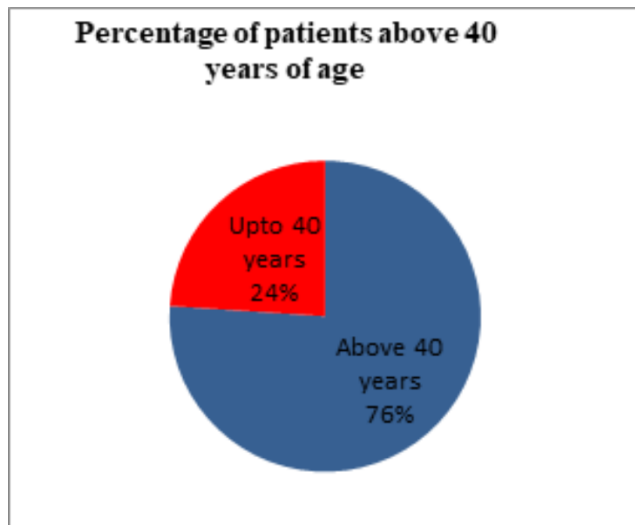
This retrospective study was carried out at the Morbid Anatomy and Histopathology / Oral Pathology department of PGMI, Lahore. The study was conducted on 71 oral squamous cell carcinoma (OSCC) cases reported between February, 2014 to September, 2015. Relevant clinicopathological data was collected from the forms submitted with the specimens. SPSS 21.0 was used for analyzing the data. Mean was given for quantitative variables while frequencies and percentage were calculated for qualitative variables. Approval from the Institutional Ethical Committee was taken.

RESULTS

In this study mean age of the OSCC patients was 53 years, while age of the oldest patient was 98 years and

Age distribution of oral squamous cell carcinoma (OSCC) patients.

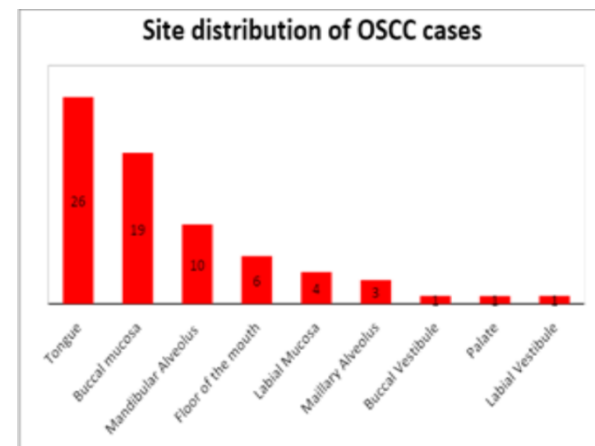
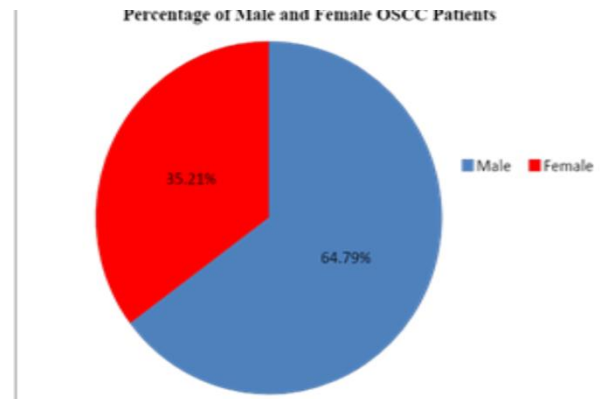
Age (years)	Frequency n (%)
20-30	3(4.23)
31-40	14(19.72)
41-50	16(22.54)
51-60	23(32.39)
61-70	7(9.86)
71-80	6(8.45)
81 +	2(2.82)



(Tab#1) (Fig#1)

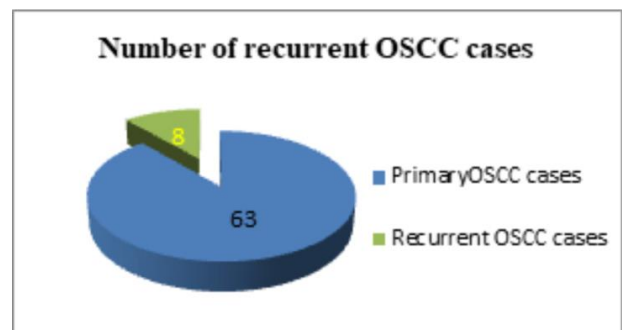
youngest patient was 26 years. Majority of the OSCC patients were above 40 years (76%), with maximum number of patients in sixth decade 23 (32.39%) (Tab#1; Fig# 1).

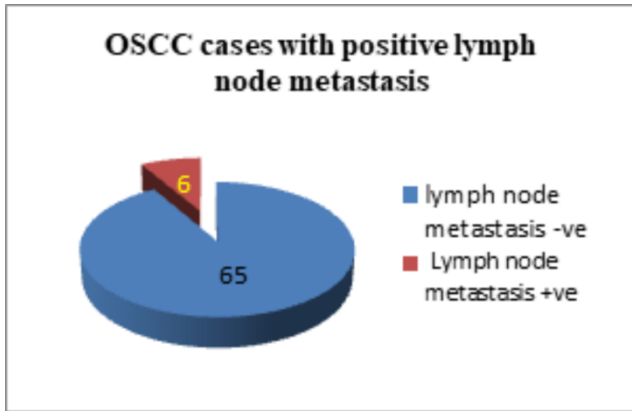
In the present study 46 (64.78%) cases belong to male gender and 25(35.21%) cases were from female gender (Fig#2). Most of the reported cases originated from tongue. While percentage of OSCC cases at various intraoral sites was as follows (Fig#3).



(Fig#2) (Fig#3)

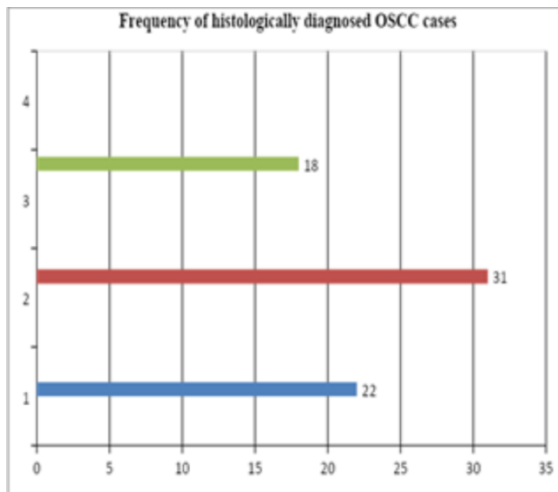
In the present study, 8(11.3%) reported cases were recurrent OSCC (Fig#4) while lymph node involvement was found in 6(8.45%) cases (Fig#5).





(Fig#4) (Fig#5)

Among the studied 71 OSCC cases, according to the Broders system, well differentiated OSCC (grade I) cases were 22(31%), moderately differentiated OSCC (grade II) cases were 31(43.66%) while poorly differentiated OSCC (grade III) cases were 18 (25.35%). No case of anaplastic (grade IV) OSCC was reported (Fig#6).



(Fig#6)

DISCUSSION

International Agency for Research on Cancer of the World Health Organization (IARC– WHO) predicted an expected increase in number of carcinoma cases from ten million in the year 2000 to fifteen million cases in the year 2020 [17,18].

Majority (76%) of the OSCC patients in this study were above forty years of age, with maximum patients 23 (32.39%) in the sixth decade. The mean age was 53 years (Tab & Fig#1). Chaudhuri et al. (2012); Kalele et al. (2014) ; Tandan et al.(2018) also reported similar findings in their study [19-21]. A high incidence of tobacco chewing, decline in immune system functioning

coupled with inaccessibility and/or ignorance towards health services may explain the prevalence of oral cancer among this age group. However, globally an increasing number of young patients, less than 40 years, are seen developing head and neck tumors nowadays [22,23].

Most of the OSCC patients were male, as male to female patient ratio was 1.84:1 in this study (Fig#2). Alamgir et al. (2013); Emamverdizadeh et al. (2014); Jamal et al.(2005) also reported male predominance in their studies [24-26]. A considerable prejudice regarding oral cancer prevalence among males can be attributed to comparatively easy and early exposure of carcinogens to them. Secondly, the tobacco consumption and betel nut chewing as stimulants make them more susceptible to oral cancer. However, nowadays this gender difference is minimizing as more females are indulging in habit of smoking and other forms of tobacco usage.

Most of the OSCC cases were found on the tongue this study (Fig#3). The findings of the present study were consistent with results of various international and local studies [24,27,28]. Bello et al., (2010) also reported in their study that tongue and floor of mouth collectively comprise approximately 50% of all reported cases of OSCC [29]. However studies conducted by Chaudhuri et al.(2012); Tandon et al.(2018) reported maximum number of OSCC cases from mandibular alveolus and buccal mucosa respectively [19,20]. A drastic variation in site of OSCC occurrence is seen in various epidemiological studies. Floor of mouth and tongue both being lined by thin nonkeratinized epithelium are frequent sites of involvement. This variation in site of origin of OSCC may be due to individual’s specific habit of placing carcinogenic agents eg. tobacco, naswar, arecanuts etc. at a particular site and duration of contact of a particular site with carcinogen.

According to the results of the present study, 8(11.26%) reported cases were recurrent OSCC (Fig#4) while involvement of the lymph node was seen in 6 (8.45%) cases (Fig#5). Recurrence of a tumor and occurrence of metastases in the regional lymph nodes at initial presentation leads to poor prognosis [7, 36].

In our study out of 71 OSCC cases, histopathologically, there were 22 (31%) well differentiated OSCC (grade I) cases, 31(43.66%) moderately differentiated OSCC (grade II) cases and 18(25.35%) poorly differentiated OSCC (grade III) cases (Fig#6). Various local and international studies also stated that moderately differentiated OSCC (grade II) cases were the most frequently reported cases [24,25,30-34]. In the present and above mentioned studies, the maximum cases were of grade II ie. moderately differentiated OSCC, most likely because most of the

patients report to the hospital when the lesion becomes clinically visible and/or symptomatic. However poorly differentiated OSCC was reported as the most prevalent type of OSCC by Effiom et al.(2008)^[35].

CONCLUSION

In our study, majority of the oral squamous cell carcinoma patients reported late and at an advanced histological grade. Poor screening system and/or negligence of patients along with availability of limited health care facilities in our population is chiefly responsible for such a delay in reporting of the carcinoma cases. Considering the magnitude of the problem, this study lays emphasis on a tobacco free environment, public health awareness and delivery of health care facilities in every corner of country. Public awareness programs for prevention, early detection and diagnosis oral cancer at national level is a demand of the time.

ETHICAL APPROVAL:

The study was approved from Ethical Review Committee of Postgraduate Medical Institute, Lahore, Pakistan.

AUTHORS' CONTRIBUTION:

WK: Study Design, Manuscript Writing

UF: Data Collection, Statistical Design

NS: Manuscript Writing

MH: Revision of the final version of Manuscript

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