ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 8, Issue, 08, pp.37152-37155, August, 2016

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

A WOLF IN A SHEEP'S CLOTHING! A STUDY ON PREVALENCE AND PRESENTATION OF GINGIVAL AND ALVEOLAR RIDGE CARCINOMAS REPORTED DURING A TWO YEAR SPAN AT KARAD

[1]Khan Rafat, *[,2]Belgaumi, U. I., [3]Malik, N. A., [2]Baad, K., [2]Vibhute, N., [2]Kadashetti, V. and [2]Sushma Bommanavar

[1]Intern, School of Dental Sciences, KIMSDU, Karad, Maharashtra, India
[2]Faculty, Department of Oral Pathology and Microbiology, School of Dental Sciences, KIMSDU, Karad, Maharashtra, India
[3]Honorable Vice Chancellor, KIMSDU, Karad, Maharashtra, India

ARTICLE INFO

Article History:
Received 22nd May, 2016
Received in revised form
14th June, 2016
Accepted 25th July, 2016
Published online 31st August, 2016

Key words:

Oral Squamous cell Carcinoma,
Gingival Carcinoma,
Alveolar Carcinoma.

ABSTRACT

Background - SCCs (SCC) of the gingiva are relatively rare tumours. Many unique features of gingival SCC clearly delineate it from oral SCC arising in other sites. Gingival SCC can mimic a multitude of oral lesions, especially those of inflammatory origin.[1]

Objective – to retrospectively evaluate the number and presentation of cases of gingival and alveolar ridge SCC reported in a period of two years.

Methodology - Outpatients records, in the Department of Oral Pathology and Microbiology and Forensic Odontology, SDS, KIMSDU were retrospectively evaluated. Cases diagnosed as gingival/alveolar ridge carcinomas during January 2012-December 2013, were selected and their clinical and histologic findings were recorded and analyzed.

Results – In the present study during the two year span, it was found that 70% oral SCC reported were found to be gingival and alveolar ridge SCC with the highest incidence in the 5th -6th decade of life, a predilection for males and the mandibular posterior region was also observed. 10% cases in the present study had a innocuous presentation which could have been missed without adequate investigations.

Conclusion – These carcinomas constitute an extremely important group of neoplasms since the initial presentation mimics common dental infections & this may lead to delay in diagnosis and even misdiagnosis. Hence a thorough history taking, clinical examination and further investigation are vital to avoid a delay in diagnosis and or misdiagnosed.

Citation: Khan Rafat, Belgaumi, U. I., Malik, N. A., Baad, K., Vibhute, N., Kadashetti, V. and Sushma Bommanavar, 2016. "A wolf in a sheep's clothing! a study on prevalence and presentation of gingival and alveolar ridge carcinomas reported during a two year span at Karad", *International Journal of Current Research*, 8, (08), 37152-37155.

INTRODUCTION

Gingival SCC represents less than 10% of diagnosed intraoral carcinoma. Many unique features of gingival SCC clearly delineate it from oral SCC arising in other sites (Yoon *et al*., 2007). These carcinomas are neoplasms of the elderly, majority of the patients being in the sixth decade of life. Men and more often affected (Khandekar *et al*., 2006). Gingival SCC can mimic a multitude of oral lesions, especially those of inflammatory origin. In addition, predisposing and presenting factors are different from those of other oral SCCs. Careful examinations as well as routine biopsy is crucial for accurate diagnosis (Yoon *et al*., 2007). Since these tumours form an important group of oral neoplasms that may mimic innocuous oral lesions, hence the present research plans to study the prevalence and presentation of these lesions in SDS, KIMSDU, Karad.

Corresponding author: Uzma Belgaumi,
Faculty, Department of Oral Pathology and Microbiology, School of Dental Sciences, KIMSDU, Karad, Maharashtra, India.

MATERIALS AND METHODS

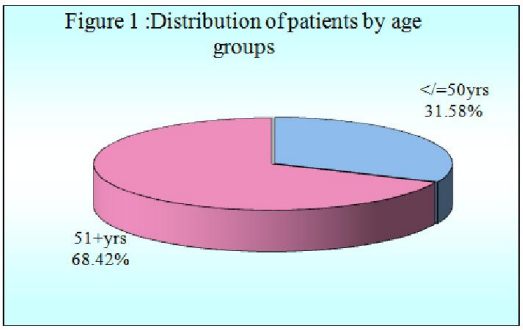
Outpatient records, in the Department of Oral Pathology and Microbiology, SDS, KIMSDU will be retrospectively evaluated. Cases diagnosed as Gingival/Alveolar ridge carcinomas during January 2012- December 2013, were selected and their clinical and histologic findings recorded and analyzed.

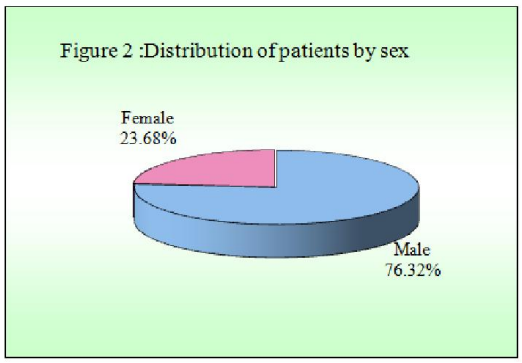
The cases that could have been misdiagnosed as innocuous lesions will be recorded and the data collected will be used to create more awareness regarding these carcinomas

RESULTS

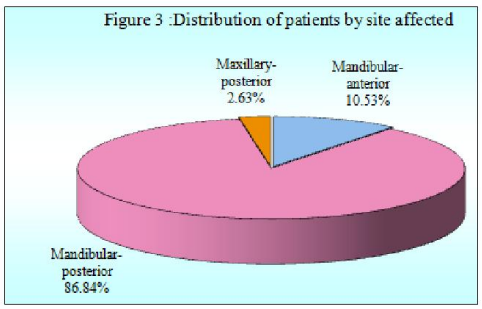
A total of 38 cases of gingival / alveolar SCC were reported from the total of 55 cases of oral SCC. A high incidence of this carcinoma were in the age group of 51+ yrs of age (Chart 1)

Males were more affected by female (Chart 2).





The mandibular posteriors (86.84 %) was the most common anatomical sites of this carcinomas followed by mandibular anterior region (Chart 3).



On histopathology diagnosis majority of this lesions were diagnosed as well differentiated SCC (60%) followed by moderately differentiated and poorly differentiated SCC. (Table 1).

Table 1. Distribution of patients by histopathology diagnosis

Histopathology	No of patients	% of patients
Poorly differentiated SCC	2	5.26
Moderately differentiated SCC	5	13.16
Well differentiated SCC	23	60.53
SCC	6	15.79
Verrucous carcinoma	2	5.26
Total	38	100.00

DISCUSSION

Gingival SCC represents less than 10% of diagnosed intraoral carcinoma. Many unique features of gingival SCC clearly delineate it from oral SCC arising in other sites (Yoon *et al*., 2007; Molina *et al*., 2011). The proportion of patients with gingival carcinoma was: 36.5% in an Indian study, 28% and 25% in the two US studies, and 10, 9% in an Italian study (Casagni *et al*., 2004). Studies suggest that patients with carcinoma of the gingiva exhibit demographic features that differ from those of persons with squamous carcinoma at other intraoral sites. On retrospective evaluation of 577 cases, it was found that the gingiva (alveolar ridge included) was the third most common site for oral squamous carcinoma (Barasch *et al*., 1995). Our study supported the earlier Indian study showing a higher incidence and an extremely high incidence of 70% was observed in the present study sample. This may be attributed to the rampant use of smokeless tobacco in the current geographic area which has been associated with these carcinomas. In the present study 68% patients affected were 51 years and above. This was found to be accordance with the report study by Seoane J *et al* in 2006 where the incidence is higher among the elderly (Seoane *et al*., 2006). But these carcinomas also present at the younger age and this was seen in 31.58 % cases in the present study. In the present study Males are more commonly affected than Females by 76.32 % in accordance with the report submitted by Barasch *et al* in 1994 (Barasch *et al*., 1994), this may be because of associated habits. 76% patients had a history of consumption of tobacco and its related products, which is in accordance with the study done by R. Sankaranarayanan *et al* in 1989 (Sankaranarayanan *et al*., 1989). However no data regarding such adverse habits was found in the rest of the patients. This was a limitation in the present study since few cases have been reported in the absence of tobacco related etiology, and hence suggesting a possibly another etiological agent The mandibular posterior area was more frequently affected- 86.84%. This is in accordance with Torabinejad *et al* in 1980 who state that SCC of gingiva more frequently involves the mandible than maxilla (Torabinajed *et al*., 1980). 50% cases had associated mobility of teeth. This is important because if extraction of such teeth is performed without due investigation it would lead to rapid proliferation of the tumor mass from the extraction site giving the impression to the patient that the tumour developed after the extraction (Fig 1 and 2) About 60.53 % were histologically diagnosed as Well differentiated SCC and 13.63 % were Moderately differentiated SCC. Fitzpatrick *et al* reported in 2012 in their case series that the majority of clinicians considered a malignancy in their differential diagnosis (64%), although 15% considered only reactive lesions.

Fig. 1.

Fig 1a.

Fig 1. 1a. Clinical picture in a patient with Gingival SCC and importance of radiograph showing extensive bone loss

Fig. 2.

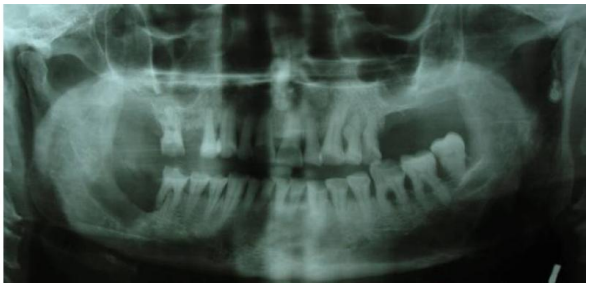


Fig 2a.

Fig 2, 2a Clinical and post extraction radiographic picture in a patient with a non healing extraction site diagnosed with Gingival SCC

They also added that most of the carcinomas presented as exophytic masses and, histologically, were moderately differentiated (Souza *et al*., 2003; Fitzpatrick *et al*., 2012). Fitzpatrick *et al* reported in their case series that the majority of clinicians considered a malignancy in their differential diagnosis (64%), although 15% considered only reactive lesions. They also added that most of the carcinomas presented as exophytic masses and, histologically, were moderately differentiated (Fitzpatrick *et al*., 2012). Gingival carcinoma often destroys the underlying bone structure causing tooth mobility. This lesion may not become clinically evident until after tooth extraction when it proliferates out of the socket to mimic the hyperplastic granulation tissue of epulis granulomatosa. These carcinoma may manifest as an erosive lesion or a granular/ verrucous exophytic growth, but many times they do not clinically appear like malignant neoplasms (Neiville *et al*., 2009). Cancer cells grow down along the periodontal ligament. They rapidly proliferate after extraction, with the morbid consequences of unobstructed neoplastic growth into the underlying bone and exacerbation of the lesion (Shafer *et al*., 2005).

Fig. 3a.

Fig. 3b.

Fig 3a and 3b- Two histologically diagnosed Gingival SCC cases with an innocuous presentation

In an animal study, it was revealed that apart from tumor nests, resorption of the surface of the alveolar wall with resultant detachment of fibers of the periodontal ligament, preceded the invasion of SCC, which seemed to be an important factor with regard to tumor invasion. Tumor may easily invade into the loosely connected tissues rather than tightly connected tissues. Tumor nests seemed to have a tendency to infiltrate along the alveolar bone and through the interstitial spaces in the periodontal ligament, deeply into the periodontal ligament (Kohgo *et al*., 1990). In a case report by Kumari PS *et al*. the authors suggest that there is a need to document GSCC as a separate entity as it exhibits features different from general OSCC, like direct invasion of the bone, its predilection for females unlike OSCC which is generally seen in males and the least association with the classic risk factors of tobacco and alcohol consumption. The authors also add that since these lesions resembles periodontal disease or an endo-perio lesion or an ulcer as in the case discussed may make it go unnoticed by a complacent or casual examiner (Kumari *et al*., 2013).

Though all the cases were clinically diagnosed as SCC 10% had a benign presentation and could have been misdiagnosed without adequate investigations (Fig 3a & 3b).

Conclusion

Gingival carcinomas constitute an extremely important group of neoplasms, especially in those individuals who consume smokeless tobacco. It is even more important since the initial presentation mimics common dental infections, which has led to delay in diagnosis and even misdiagnosis. A detailed history, thorough clinical examination, utilization of radiographic and advanced imaging techniques along with histopathological confirmation are simple measures to be taken before simply extracting a tooth with an adjacent suspected red/white area or even a benign looking proliferative growth that bleeds easily in an elderly patient with a history of tobacco consumption to prevent the morbid consequences of a faster spread, proliferative growth and delay in diagnosis in atleast the high risk individuals

REFERENCES

Barasch, A., Gofa, A., Krutchkoff, D.J., Eisenberg, E. 1995. SCC of the gingiva: A case series analysis. *Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontolog,* 80:183–187

Barasch, A., Morse, D.E., Krutchkoff, D.J., Eisenberg, E.1994. Smoking, gender and age as risk factors for site-specific intraoral SCC. *A case series analysis. Cancer,* 73:509-13.

Casagni, F., Mombelli, A., Samson, J., Lombardi, T. 2004. Gingival SCC: Systematic Review. *J Dent Oral Med.,* 6 :206

Fitzpatrick, S.G., Neuman, A.N., Cohen, D.M., Bhattacharyya, I. 2012. The clinical and histologic presentation of gingival SCC: a study of 519 cases. *Oral Surg Oral Med Oral Pathol Oral Radiol.*114 :509-15.

Khandekar, S.P., Bagdey, P.S., Tiwari, R.R. 2006. Oral Cancer and Some Epidemiological Factors: A Hospital Based Study. *Indian Journal of Community Medicine,* 31: 07-09

Kohgo, T., lizuka, T., Shindoh, M., Amemiya, A. 1990. Histopathologic study of SCC of the gingiva in edentulous jaw and dentulous jaws of hamsters treated with N-methylnitrosourea. *J Oral Pathol Med.,* 19: 202-7.

Kumari, P.S., Kumar, G.P., Bai, Y.D. and Reddy, E.B.2013. Gingival SCC masquerading as an aphthous ulcer. *J Indian Soc Periodontol,* 17:523-6.

Molina, A.P., Cirano, F.R., Magrin, J., Alves, F.A.2011. Gingival SCC mimicking periodontal disease. *Int J Periodontics Restorative Dent.,* 31:97-100.

Neiville, B.W., Damm, D.D., Allen, C.M., Bouquot, J.E. 2009. Oral and maxillofacial pathology. 3nd edition, Saunders, Philadelphia, 416

Sankaranarayanan, R., Duffy, S. W., Padmakumary, G., Day, N. E. and Padmanabhan, T.K. 1989. *Br J cancer*, Oct 60(4) : 638- 643.

Seoane, J., Varela-Centelles, P.I., Walsh, T.F., Lopez-Cedrun, J.L., Vazquez, I. 2006.Gingival SCC: Diagnostic delay or rapid invasion? *J Periodontol,* 77:1229-33.

Shafer, Hine and Levy, 2005. Text book of oral pathology. 6th edition, Elsevier, New Delhi 113-114

Souza, R.P., Moreria, P.T.B., Paes Junior, A.J.O., Pacheco Neto, C.M., Soares, A.H., Rapport, A. 2003. Gingival SCC: imaging analysis of seven patients. Radiol Bras Aug;36(4):225-7.

Torabinajed, M., Rick, G.M.1980. SCC of the gingiva . J Am Dent Assoc. Jun; 100(6):870-2.

Yoon, T.Y., Bhattacharyya, I., Katz, J., Towle, H.J., Islam, M.N. 2007. SCC of the gingiva presenting as localized periodontal disease. Quintessence Int. Feb;38(2):97-102

****