Himalayan Journal of Dental Science and Research
Abbreviated Key Title:Himlyn Jr. Dnt Sci. Res.;
ISSN: XXXX-XXXX(Print) & ISSN: XXXX-XXXX(Online)
Published By Inlight Publisher, Kuwait
Volume-1 | Issue-1| May-June- 2022 | DOI:

OPEN ACCESS

Case Report

Intra Alveolar Carcinoma of Mandible: A Case Report

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Article History
Received: 26.03.2022
Accepted: 25.04.2022
Published: 21.05.2022

Journal homepage:
https://inlightpublisher.com/journal/hjdsr/home

Quick Response Code

Abstract: Primary intraosseous carcinoma (PIOC) or Primary intraosseous squamous cell carcinoma (PIOSCC) is a rare carcinoma, which arises within the jaws without connection to the oral mucosa. It was first described by Loos in 1913 as a central epidermoid carcinoma of the jaw. The etiology of this tumor is still not clear. It is a rare case which arises by direct transformation of Odontogenic epithelial rests in the jawbone. The epithelial rests found within the periodontal ligament and alveolar bone. Remnants of the dental lamina and the reduced enamel epithelium surrounding anunerupted/impacted tooth, The present report describes a case of PIOC of mandible arising de novo in a 51-year-old-man, which was initially treated by a general dentist, who misdiagnosed it as a periodontal lesion.

Keywords: Intra Alveolar Carcinoma of Mandible

CASE REPORT

A 51-yr-old-male patient reported with a complaint of pain and non healing of soft tissue overlying the extracted tooth region present in his left lower back teeth region of the jaw since two and half months. Patient was asymptomatic 3 months back. Later developed mild pain in the left lower back tooth region of the jaw associated with mobility of the tooth on chewing food over it. On consulting a local dentist, the concerned tooth i.e. 38, was extracted at a private clinic at Rohru in Shimla two and half months back. Pain persisted and increased inspite of antibiotic coverage and pain killer with non healing of wound in place of extracted tooth. Pain was later associated with mild parasthesia over left chin region, mild trismus and swelling of the jaw. There was no relevant personal, medical, dietery or family history significant for cancer. Social history was positive for smoking and alcohol abuse in the past but not at the time of presentation.

On general physical examination, no significant abnormality was found. Vital signs were also in normal range. Facial asymmetry was found on extra oral examination. Diffused swelling was present over left posterior lower 1/3rd region of face, extending superiorirly to a line approximating occlusal line, inferiorily at lower border of the mandible, anteriorily to left angle of mouth, posteriorly to 1 cm anterior to the left angle of the mandible on local examination. Overlying skin is not stretched and shiny.

No swelling with Normal opening and closing movements of jaw on T.M.J Examination. Slightly restricted mouth opening was present. On Palpation there was bilaterally non tender TMJ region. Muscles of mastication was non tender, non hypertrophied/atrophied. Salivary glands were non enlarged, non tender major salivary glands with no pus discharge. Normal salivary pooling of saliva in mouth was present. Left sub mandibular lymph nodes were palpable, slightly tender.

Upon Intra oral examination, an ulcero-proliferative lesion (figure 2, 3) over left mandibular alveolar ridge region measuring 2.5 cm mesio-distally and 1.5 cm linguo-labially was seen on Inspection. There was Yellowish white necrotic slough covering the ulcerative lesion with rolled margins which was non- bleeding and non purulent. On digital palpation there was tender, slightly hemorrhagic mucosa with firm rolled borders, tender bony surface with irregular spicules, parasthesia of left side of lower lip and left chin region but no discharge was present. 37, 38 teeth were missing but there was no dental caries.

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OPG revealed (Fig. 4) anunilocular oval shaped radiolucent lesion with ill defined, non-sclerotic margins present over left mandibular angle and medial ramus region and downward displacement of left inferior alveolar canal.

CECT face and skull revealed (fig. 6, 7, 8, 9) Lytic lesion seen involving body of the mandible with medial lower ramus region. There is breach in labial as well lingual aspect of labial aspect of the mandibular cortex with extension into masseter muscles, superiorly extending into left parapharangeal space. Multiple enlarged lymph nodes was seen in b/l station IA, IB and left station II.

In Hematological reports, ESR was raised (39 mm/hour), Hematocrit was low (36.4%) , RDW was high (14.9%) and Segmented Neutrophils was also high (73 %). Rest other Parameters were normal.

M/E shows invasive tumor with tumor epithelial cella arranged in rests and sheets. Tumor cells showed moderate nuclear pleomorphism, high N: C ratio, hyper chromatic nuclei with individual cell keratinization and keratin pearl. Histological findings were suggestive of well differentiated squamous cell carcinoma.(Figure-10,11)

Multi-agent chemotherapy with Vincristine ,Dactinomycine, Cyclophosphamide &Doxorubicine was given as a part of medical treatment. Segmental resection of pathology bearing segment of the mandible was done as a Surgical Treatment (fig. 12, 13). One month follow up was found uneventful. (fig.14, 15)

Figure 1: Facial Symmetry: Asymmetrical.

Figure 2 **Figure 3**

Figure 4

Figure 5

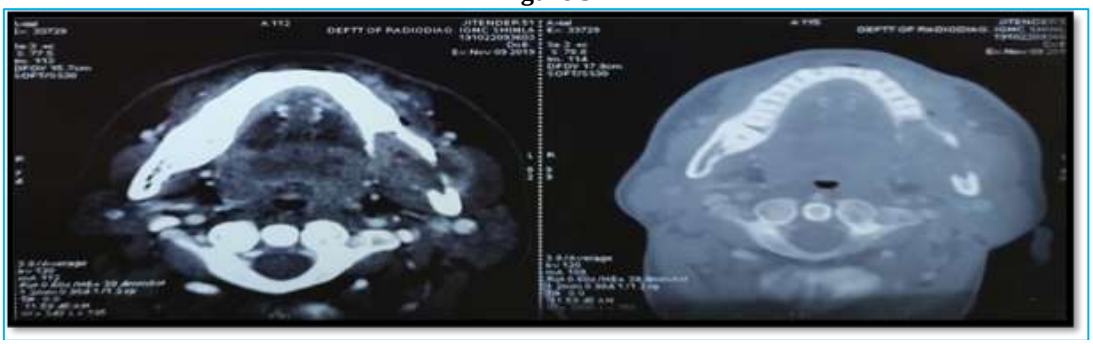

Figure 6

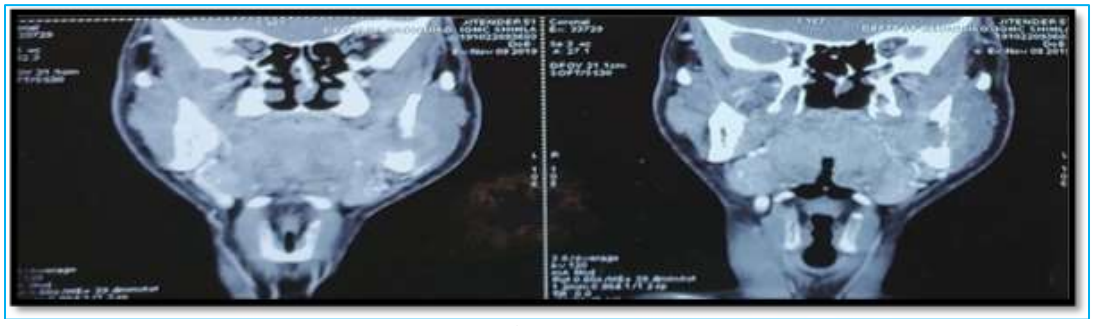

Figure 7

Figure 8

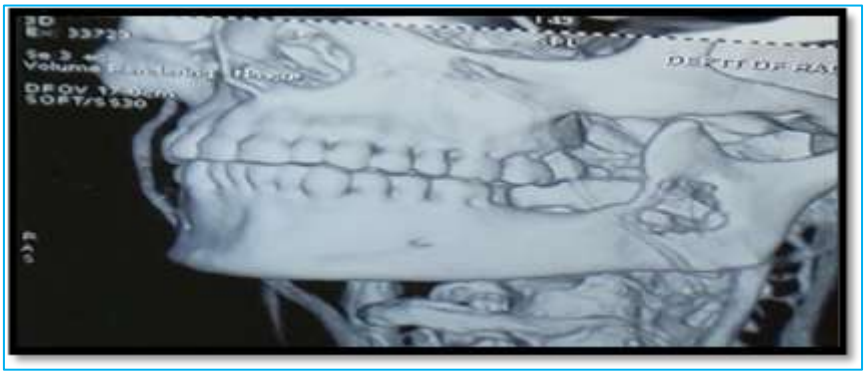

Figure 9

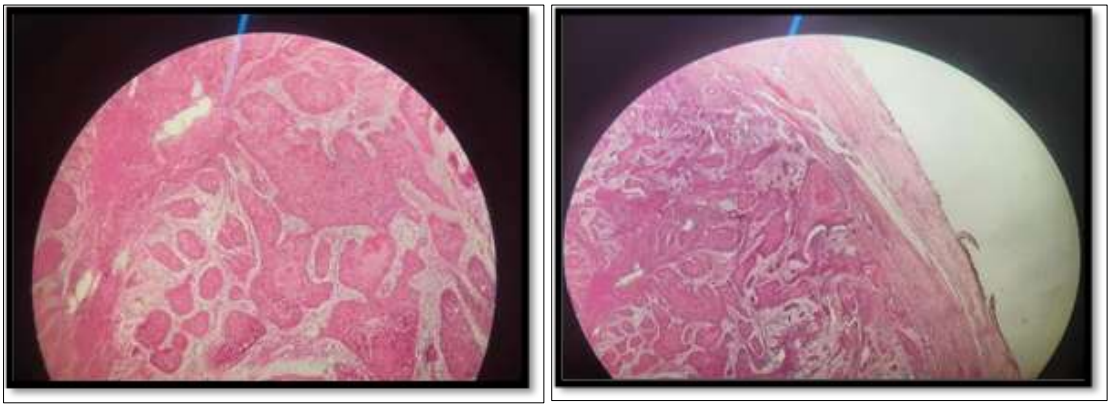

Figure 10, 11: Histopathological Examination

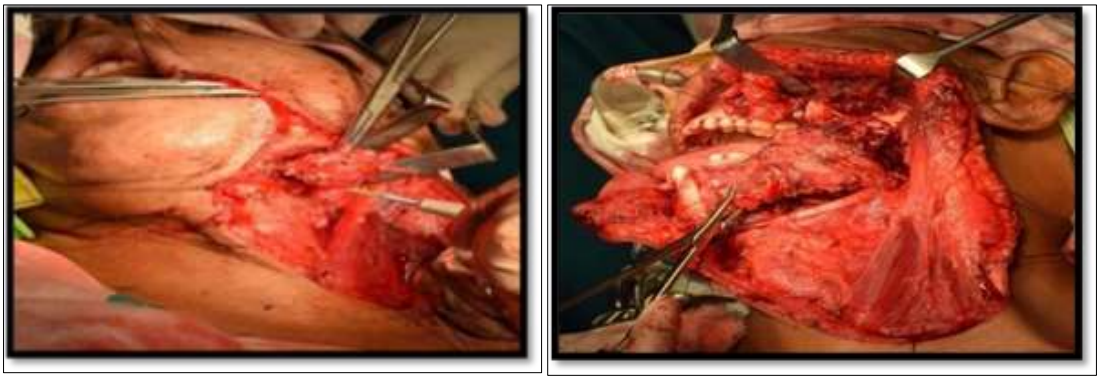

Figure12 **Figure13**

Figure14 **Figure15**

DISCUSSION

According to WHO, PIOC is defined as a squamous cell carcinoma arising within the jawbone without connection to the oral mucosa, probably from odontogenic epithelial residues (Thomas, G. *et al.,* 2001). Pindborg in 1971 coined the term PIOC. Waldron and Mustoe suggested adding intraosseousmucoepidermoid carcinoma to the previous classification. According to (Zwetyenga, N. *et al.,* 2001), patients ranged between the age group of 4 to 76 years (mean, 54 years). It occurs more frequently in the mandible (especially the posterior section) than in the maxilla and have a male to female ratio of 2.5:1. Suei*et al.,* suggested following criteria for diagnosis of PIOC as

- Intact oral mucosa before diagnosis;
- Microscopic evidence of squamous cell carcinoma without a cystic component or other odontogenic tumor cells; and
- Absence of another primary tumor on chest radiographs obtained at the time of diagnosis and during a follow-up period of more than 6 months.

Classification of PIOC

According to Walderon and Mustoe

- Type 1: PIOC ex odontogenic cyst
- Type 2a: Malignant ameloblastoma
- Type 2b: Ameloblastic carcinoma arising de novo, Ex ameloblastoma, Ex odontogentic cyst
- Type 3: PIOC arising de novo (a) Keratinising type (b) non Keratinising type
- Type 4: Intraosseousmucoepidermoid carcinoma

The finding of an intact mucosa in the present case made the possibility of direct extension of squamous cell lesions from the oral mucosa appeared unlikely. Hence, the tumor described in this paper completely fulfilled the above mentioned strict criteria and our case represented the feature of type 3a according to the classification given by Waldron and Mustoe. According to (Thomas, G. *et al.,* 2001), pain was the most common presenting feature followed by swelling of the jaw and sensorydisturbances, which were similar to the one reported by (Geetha, P.*et al.,* 2015).

Paresthesia was seen in present case along with accelerated growth, trismus because of muscle infiltration were also among common symptoms. According to (Thomas, G. *et al.,* 2001), PIOCs have varied radiographic presentations like cup- or dish-shaped patterns, well-defined lesions, small radiolucent loculations and poorly defined mouth eaten appearance. (Geetha, P.*et al.,* 2015) noted osteolytic bone changes with irregular or regular margins and pathological fractures.

The internal structure is usually radiolucent without any new bone production and sometimes residual bone can be seen within the radiolucency. Root resorption is unusual. Teeth that lose both lamina dura and the supporting bone appear to be 'floating' in space (Zwetyenga, N. *et al.,* 2001; &Geetha, P.*et al.,* 2015).

REFERENCES

1. Thomas, G., Pandey, M., Mathew, A., Abraham, E. K., Francis, A., Somanathan, T.& Nair, M. K. (2001). Primary intraosseous carcinoma of the jaw: pooled analysis of world literature and report of two new cases. *International journal of oral and maxillofacial surgery*, *30*(4), 349-355.
2. Zwetyenga, N., Pinsolle, J., Rivel, J., Majoufre-Lefebvre, C., Faucher, A., &Pinsolle, V. (2001). Primary intraosseous carcinoma of the jaws. *Archives of Otolaryngology–Head & Neck Surgery*, *127*(7), 794-797.
3. Geetha, P., Tejasvi, M. A., Babu, B. B., Bhayya, H., &Pavani, D. (2015). Primary intraosseous carcinoma of the mandible: A clinicoradiographic view. *Journal of cancer research and therapeutics*, *11*(3), 651.