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SQUAMOUS CELL CARCINOMA OF TONGUE: A CLINICAL CASE REPORT

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ABSTRACT:
The most common carcinoma affecting the oral mucosa is oral squamous cell carcinoma, with prevalence seen in the age groups above 50 years in males and with rare occurrence below 30 years. Studies reveal approximately 30-40 % of deaths in oral squamous cell carcinoma occur due to various tissue abuse habits. The present case defines a classic incident of oral squamous cell carcinoma concerning the tongue in a male having 50 years of age. Oral tongue squamous cell carcinoma (OTSCC) is becoming more common. Our region has a relatively higher rate of OTSCC because to the use of tobacco, alcohol, beetle nuts, and inadequate dental hygiene.

Keywords: Squamous cell carcinoma, Tongue neoplasm, malignant

INTRODUCTION:

Because early detection and treatment are possible, oral cancer is seen as a preventable condition. Ninety-five percent of head and neck cancers are oral squamous cell carcinomas (OSCCs), and over the last ten years, the incidence of OSCCs has increased by fifty percent. Alcohol and cigarette use are linked to 90% of patients with oral cancer, and they seem to work in concert with one another. Most cases of OSCC are discovered too late, in stages III or IV, which severely impairs the prognosis and severely lowers the quality of life for the affected patient (1).

After basal cell carcinoma, squamous cell carcinoma of the skin, also known as cutaneous squamous cell carcinoma, is the second most frequent type of skin cancer in the US. Actinic keratosis, a precursor lesion to squamous cell carcinoma, is a tumour that progresses and can spread throughout

the body. Sunlight radiation with ultraviolet (UV) spectra is the main cause of cutaneous squamous cell carcinoma, and lifetime exposure to this type of radiation contributes significantly to the cancer's growth (2).

Infact, it seems that all oral squamous cell carcinomas that metastasize to lymph nodes are most frequently linked to tongue squamous cell carcinomas. However, considering the higher frequency of concealed metastases in patients with small initial tumours and no clinical indications of metastatic disease, tongue cancer appears to have a clinically unpredictable prognosis (3).

CASE REPORT:

A 57-year-old male patient presented to the department of oral and maxillofacial surgery with chief complaints of acute pain in relation to left side of the tongue for the past 2 months. Pain is continuous, throbbing types and doesn't subside on taking medication. Patient also complaints of swelling for the past 2 months which is faster in growth for the past 2 weeks to attain the present size. On general clinical examination patient had a normal gait, and posture and was well oriented, conscious and moderately built. Normal mouth opening. On extra oral examination No facial asymmetry is detected, No tender on palpation

Figure 1

On intra oral examination while inspection, lesion of size 4×3 cm evident on left lateral border of tongue and extending anterior one third to the posterior two third on the left side. Ulcer of size 2×2 cm is evident on the left lateral border of the tongue extending from anterior two third to the middle third in relation to 33 and 34 region. On inspection of lesion size of around 4×3 cm which is irregular in size and erythematous and rough surface, extending anteriorly from anterior one third to posterior two third posteriorly and superiorly from left lateral border of the tongue and inferiorly involving floor of the mandible. On palpation size of about 4×3 cm, irregular in shape, presence of tenderness, bleeding on palpation. Surrounding structure involves left lateral border of the tongue and lesion extending into the floor of the mouth is rough on palpation while the surface is rough and hard on palpation

Figure 2- ulcer is evident on the left lateral border of the tongue

On examination of ulcer, while inspection ulcer of size 2×2cm, oval in shape, greyish white in colour and rough surface. Extending anteriorly in relation to 33 and 34 with rough surrounding surface which is a single, everted and with two-month duration. While palpating tenderness is present with everted edge and presence of bleeding. With these clinical findings the provisional diagnosis was attained to be Squamous cell carcinoma of left lateral border of tongue

For investigatory purposes, under local anesthesia, an incisional biopsy was performed, and histopathological evaluation was conducted with theses clinical findings and histopathology report, the provisional diagnosis was attained to be squamous cell carcinoma of tongue.

The patient was advised for blood investigations. On biochemical investigations, complete hemogram, blood glucose, liver and kidney function test were performed, of which his complete blood count (CBC), Hepatitis B surface antigen (HBsAg) and hemoglobin A1c(HbA1c) levels were with in normal limits, and HIV test was non-reactive.

Gross pathology shows, A- Specimen labelled as Left lateral border of tongue identified by two sutures one is shorter and one longer measuring 6.5×3×2. 8cm.Tumour measuring 4×2 8×2cm. Deep resected margin is 0.3cm away from tumour, 1.5cm away from short suture and 2.5cm away from the other suture. Also received in the same container is a part of left mandible with two intact tooth measuring 4 x 1.5 x 1.5cm.

Level IA - Received a fibrofatty tissue bit measuring 3×1.5×0.5cm. Cut surface - one lymph node identified measuring 0.5×0.5cm

Level IB - Received a fibrofatty tissue bit measuring 5×2.5×1.5cm cut surface - one node identified, measuring 3×2×1.5cm. Cut surface- appears grey white, firm.

Level II, III - Received multiple soft tissue fragments labelled as level II, III. cut surface - Nine lymph nodes were identified, largest measuring 2×1.5×1cm and smallest measuring 0.5×0.5 0.5cm. Cut surface-appears grey white and firm.

Level IV - Received two grey white soft tissue bits, largest measuring 1 * 0.5 * 0.5cm and smallest measuring 0.5 ×0.5×0.5c. Cut surface-5 lymph nodes made out, grey white and firm.

Microscopic features show a malignant tumour made up of round to polygonal squamous cells with varying degree of pleomorphism and diffusely infiltrating the deeper areas namely fibrofatty tissue and skeletal muscle tissue. Tumour cells tend to form keratin pearls. At the tumour interface there is dense lymphoplasmacytic infiltrate along with giant cell reaction. Calcified areas are noticed. Adjacent mucosa exhibits pseudoepitheliomatous hyperplasia.

LEVEL IA - Section studied show single lymph node with features of reactive hyperplasia.

LEVEL IB - Section studied from specimen sent as level IB lymph node shows single lymph node with features of reactive hyperplasia and also salivary glandular tissue showing features of chronic sialadenitis.

Level II, III - Section studied from specimen labelled as level II, III lymph nodes showed 9 lymph nodes with features of reactive hyperplasia.

Level IV - Section studied from specimen labelled as level IV lymph node showed 5 lymph nodes with features of reactive hyperplasia.

With all these histopathological findings, final diagnosis was arrived to be moderately differentiated Squamous cell carcinoma on left lateral border of tongue.

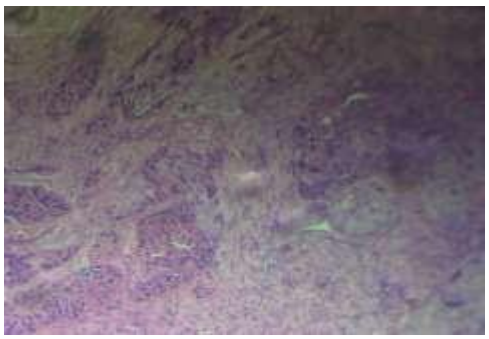
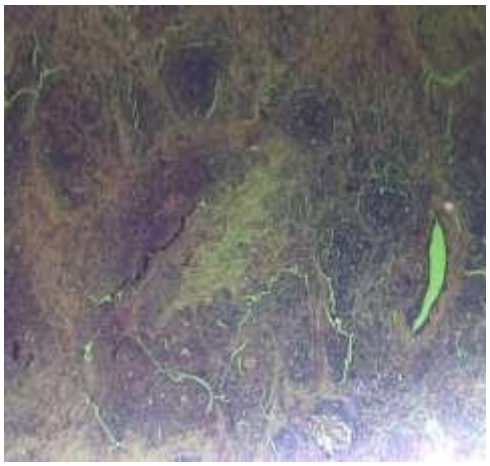


FIG:3

FIG:4

[Figure 3 (4x)- Malignant tumour cells with inflammatory infiltrate]

[Figure 4 (4x) - Pseudoepitheliomatous hyperplasia with lymphocytic infiltration]



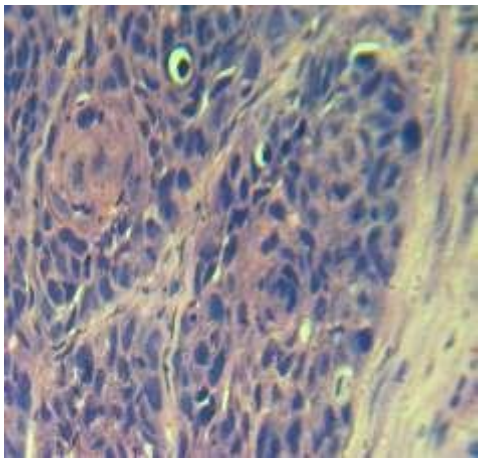


Figure 5 (10x) - keratin pearls with pleomorphism Figure 6 (40x)- Round to polygonal squamous cells with varying degree of pleomorphism

DISSCUSION:

For many years, the tumour, nodes, and metastases (TNM) classification of malignant tumours has been used to guide the treatment plan for each instance of OSCC and to assess the prognosis and survival of patients with oral cancer. However, a significant portion of patients with T1N0M0 and T2N0M0 stages do not react as anticipated to the recommended course of treatment for the stage of their malignancy. For early-stage tumours (T1–T2), a special surgical technique is typically used. Although locoregional recurrence is likely in 25–37% of patients, coadjuvant treatment is not thought to be necessary for this kind of tumour. Therefore, in certain cases, it is not thought that tumour excision with sufficient surgical margins is the best course of action for treating these kinds of cancers (4). Since, the oral mucosa is more approachable to the comprehensive investigation; early perception of potentially malignant and cancerous lesions can be easily marked. But sometimes due to unawareness or unapproachability of therapeutic facilities, the carcinoma gets diagnosed in the advanced stages. Thus, an enhancement in primary recognition of oral carcinoma should be adopted, by adopting the chairside diagnostic procedures like toluidine blue, brush biopsy, etc. (5). The lack of significant habits in younger patients has led many to speculate that other factors, such as immune deficiency, genetic factors, and dietary factors, may play a role in the Aetiology of cancer, even though tobacco and alcohol abuse are said to be the primary etiological factors. However, it was only reported for a small percentage of patients in some areas. Viruses like herpes simplex virus and human papilloma virus have also been reported as contributing factors. In comparison to older patients,

people in the younger age group were said to have a more aggressive disease with a greater mortality rate, a higher incidence of local recurrence, or involvement of regional lymph nodes after therapy (6). Alcohol, betel quid, phenol-containing substances, radiation exposure, iron and vitamin A deficiency in the diet, syphilis, environmental and occupational factors, oncogenic viruses (HPV and EBV), candididial infection, genetic predisposition, and immunosuppression are risk factors linked with tobacco use.(7)According to reports, alcohol and tobacco use are not only major risk factors for oral cancer but also have a significant impact on patients' morbidity, mortality, recurrence, and second primary tumour.(8)Numerous clinical variations of oral SCC have been examined. It could manifest as erythroplakia, leukoplakia, or leukoplakia with verrucous growth (9).

CLINICAL FEATURES:

The most typical initial symptom of tongue cancer is a painless lump or ulcer, but most patients eventually experience pain from the lesion, particularly if it gets secondary infections. Starts as a superficially indurated ulcer with slightly raised borders, the tumor can either grow into an exophytic mass with fungal growth or invade the deep layers of the tongue, causing fixation and induration with few surface alterations.

The tongue's ventral surface or lateral border are where the usual lesion appears. In the rare event that carcinoma develops on the tongue's dorsum. In situations of tongue cancer, metastases happen frequently. Because of the cross-lymphatic outflow, the metastatic lesions may be contralateral with regard to the tongue lesion, ipsilateral, bilateral, or contralateral [10].

HISTOPATHOLOGY:

Keratinized stratified squamous epithelium is the typical tongue epithelium. It is well recognized that invasive tongue cancer develops after a number of epithelial alterations. Increased mitosis, cellular pleomorphism, aberrant organization, and nuclear expansion are some of these alterations.

The degree of these alterations determines the classification, which ranges from moderate dysplasia to severe dysplasia/carcinoma in situ. Leukoplakia and erythroplakia are significant pre-malignant lesions of the tongue that may have dysplastic alterations. When leukoplakia occurs, the tongue surface develops superficial white plaques that are difficult to remove with scraping. It is advised to do a basic excision using a range of techniques because the danger of malignant transformation is minimal [11]. The primary characteristic of invasive cancer is the invasion of the basement membrane. The characteristic histopathologic features of squamous cell nests with stromal fibrosis and keratin deposition are indicative of invasive tongue SCCA. Histologic subtypes include spindle-cell, verrucous, papillary, and basaloid. However, the prototypical histologic characteristics mentioned above are generally consistent, with the exception of very weakly differentiated tumours. The presence of key histologic characteristics such as loss of differentiation, lymph vascular invasion, and perineural invasion is associated with our present case. Furthermore, the most significant histologic finding in tongue SCCA is the depth of invasion, which affects treatment choice, prognosis, and the likelihood of loco regional metastases. Individuals suffering from malignant tongue tumours deeper than 5 to 8 millimeters [12].

TREATMENT:

Surgery or radiation therapy can be an effective single-modality treatment for general, early-stage tongue cancer (T1 or T2). However, surgery is advised up front when long-term treatment morbidity, expense, and other issues are taken into account.

When it comes to advanced tumours, surgical procedures can vary from basic wide local excision and primary closure to composite resections of the tongue, floor of the mouth, and mandible that require microvascular free flap reconstruction or locoregional flaps. Neck management is crucial because a poor prognosis is associated with illness recurrence or persistence in the neck following initial therapy. Rich lymphatic network in the tongue drains to levels I–III of the neck, which is the typical path of spread for metastasized tumours.

There is ongoing clinical study regarding the potential benefits of immunotherapeutic drugs, particularly tyrosine kinase inhibitors and PD-1 inhibitors, in the treatment of head and neck

squamous cell carcinoma. These agents are currently being used more frequently, either alone or in conjunction with cisplatin-based chemotherapy [13].

CONCLUSION:

The prevalence of tongue SCC was higher in men. Among young patients, having several addictions was a common risk factor. Even though younger people are more likely to develop oral tongue SCC, suspicious lesions should not be disregarded, and tumours that have been histopathologically confirmed should be aggressively treated with frequent monitoring. To shed light on the biochemical factors that contribute to the development of tongue cancer in young people, more research is necessary.

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