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Original Research

A Case Report of Carcinoma of Hard Palate

B. Syam Deepthi[1], B. Mrudula Raju[2], Kusuma Vinnakota[3], Tejaswini Veeranki[4], Nakka Soni Good News[5], Masimukku Vaishnavi[6]

[1]Post Graduate Student, [2]Reader, Department of Oral Medicine and Radiology, St. Joseph Dental College, Duggirala, Eluru, Andhra Pradesh, India
[3,4,5,6]Intern, St. Joseph Dental College, Duggirala, Eluru, Andhra Pradesh, India

Corresponding Author:
B. Syam Deepthi
Post Graduate Student, Department of Oral Medicine and Radiology, St. Joseph Dental College, Duggirala, Eluru, Andhra Pradesh, India

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Abstract
Hard palate carcinoma is a rare oral cancer that causes a tumor to form on the roof of mouth. It can cause symptoms such as lump, bad breath, difficulty swallowing and loose teeth. This form of cancer is highly treatable especially in its early stages. Surgery to remove the tumor is typically the first line of treatment, followed by options such as radiation, chemotherapy and immunotherapy.

Keywords: Carcinoma, Hard Palate, Squamous Cell Carcinoma, Alveolar Ridge, Tumor

Introduction

Hard palate is a semilunar area bordered anteriorly by inner surface of upper alveolar ridge and posteriorly by posterior edge of palatine bone. It has a close and firm attachment of the mucosa to the underlying periosteum. The mucosa of the hard palate has most of the minor salivary glands making it a unique anatomic region. In this context, 8% of all salivary gland tumours occur on hard palate, & 80% of these are malignant. However, hard palate cancer is an uncommon malignant tumor amounting approximately 1-3.5% of all oral cavity cancers of squamous cell carcinoma (SCC) is the most common. SCC often present as painful ulcerative masses, it might spread to the maxillary alveolar ridge or the nasal cavity and maxillary sinus. However, metastasis of the hard palate carcinoma is very rare. It is uncommon malignancy which includes squamous cell carcinoma and certain types of salivary gland tumors. Benign and malignant palatal tumors are usually asymptomatic masses occasionally associated with low level of discomfort, pain or ulceration is occasionally observed. Adjacent bone invasion, perineural extension (or) sinunasal involvement is commonly observed. Tumor size, histological tumor grade and presence of lymph node metastasis at the time of initial diagnosis are associated prognostic factors. A 47 years old female patient came to the department of oral medicine and radiology with chief complaint of gum pain in the upper front tooth region of jaw since 1 year. Her past medical history included diabetes since 5 year and is under medication and gastritis since 5 years and under medication. Her habit history includes chutta smoking since 30 years and quit the habit since 20 years. She primarily visited cancer hospital (Eluru) and biopsy done. Biopsy revealed moderately differentiated squamous cell carcinoma. She has history of ulcer started 1 year ago which is increased to attain present stage. Patient complains of loosening and avulsion of teeth in the upper front teeth region she gives history of using ayurvedic treatment for 2 months, 2 months ago. Also gives history of pain and burning sensation on eating food. On Intra oral examination a nodular growth seen involving hard palate and soft palate extending anteroposteriorly from upper labial vestibule to junction of hard palate and mediolaterally from right gingival margin to left gingival margin ulcerative growth seen involving left upper buccal mucosa. Extending from 24 to 27.on palpation the lesion is tender, firm in consistency, non-scrapable. On bilateral examination of lymphnodes left submandibular lymphnodes palpable, single, movable 1×1cm, non-tender. Provisional diagnosis is ulceroproliferative growth involving hardpalate and verrucous leukoplakia involving hardpalate and verrucous growth involving labial vestibule. Biopsy is done and histopathology revealed moderately differentiated squamous cell carcinoma.

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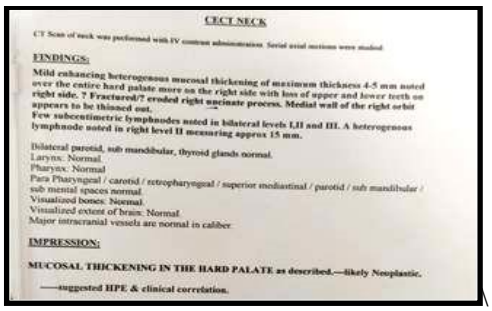
Figure: 1

Figure: 2



CECT NECK

CT Scan of neck was performed with IV contrast administration. Serial axial sections were studied.

FINDINGS:

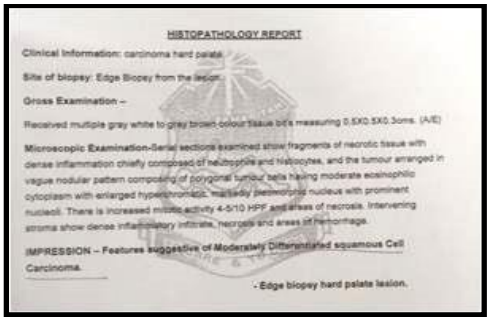
Mild enhancing heterogenous mucosal thickening of maximum thickness 4-5 mm noted over the entire hard palate more on the right side with loss of upper and lower teeth on right side. ? Fractured/? eroded right uncinate process. Medial wall of the right orbit appears to be thinned out.
Few subcentimetric lymphnodes noted in bilateral levels I,II and III. A heterogenous lymphnode noted in right level II measuring approx 15 mm.

Bilateral parotid, sub mandibular, thyroid glands normal.
Larynx: Normal.
Pharynx: Normal
Para Pharyngeal / carotid / retropharyngeal / superior mediastinal / parotid / sub mandibular / sub mental spaces normal.
Visualized bones: Normal.
Visualized extent of brain: Normal.
Major intracranial vessels are normal in caliber.

IMPRESSION:

MUCOSAL THICKENING IN THE HARD PALATE as described.—likely Neoplastic.
——suggested HPE & clinical correlation.

Figure: 3



HISTOPATHOLOGY REPORT

Clinical Information: carcinoma hard palate

Site of biopsy: Edge Biopsy from the lesion

Gross Examination –

Received multiple gray white to gray brown colour tissue bits measuring 0.5X0.5X0.3cms. (A/E)

Microscopic Examination-Serial sections examined show fragments of necrotic tissue with dense inflammation chiefly composed of neutrophils and histiocytes, and the tumour arranged in vague nodular pattern composing of polygonal tumour cells having moderate eosinophilic cytoplasm with enlarged hyperchromatic, markedly pleomorphic nucleus with prominent nucleoli. There is increased mitotic activity 4-5/10 HPF and areas of necrosis. Intervening stroma show dense inflammatory infiltrate, necrosis and areas of hemorrhage.

IMPRESSION – Features suggestive of Moderately Differentiated squamous Cell Carcinoma.

- Edge biopsy hard palate lesion.

Figure: 4

Discussion

Approximately 94% of all oral malignancies are squamous cell carcinoma. The cause of oral squamous cell carcinoma is multifactorial. Extrinsic factors include agents as tobacco smoke, alcohol, syphilis and sunlight. Intrinsic factors include general malnutrition and iron deficiency anaemia. Many oral squamous cell carcinomas have been documented to be associated with or preceded by precancerous lesions like leukoplakia. Due to tobacco smoking the greatest risk is found in certain isolated Indian and south American cultures in which the practise of reverse smoking is popular, especially women where reverse smoking is practised as many as 50% of all oral malignancies are found on hard palate. The clinical features include minimal pain during early growth phase . The clinical presentation includes exophytic (mass forming fungating, papillary, verruciform), Endophytic (invasive, burrowing, ulcerated), leukoplakia, Erythroplakia, Erythroleukoplakia. An exophytic lesion typically has a surface that is irregular fungating, papillary or verruciform and its colour may vary from normal red to white, depending on the amount of keratin and vascularity. The surface is often ulcerated and the tumor feels hard (indurated)on palpation Destruction of underlying

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bone when present, may be painful or completely painless and appear as moth eaten radiolucency with ill-defined margins on radiograph. Carcinoma also can extend for many centimetres along a nerve without breaking away to form a true metastasis. Intraoral carcinoma-most common site is tongue usually posterior, lateral and ventral surfaces, other sites of involvement are soft palate, gingival, buccal mucosa, labial mucosa, oral floor and hard palate. Two thirds of lingual carcinomas appear as painless indurated masses or ulcers of the posterior lateral border. Gingival and alveolar carcinomas are usually painless and most frequently arise from keratinised mucosa in posterior mandibular site the metastatic spread of oral squamous cell carcinoma is largely through lymphatics to ipsilateral cervical lymph nodes. Histopathologic evaluation is done by grading lesions are graded on a 3 point or 4 point scale the less differentiated tumours receive high numerals tumor that is mature enough to closely resemble its tissue of origin seems to grow at slightly slow pace and to metastasize. later in its course such tumor is called low grade or well differentiated squamous cell carcinoma. In contrast a tumour with much cellular and nuclear pleomorphism and with little or no keratin production may be so immature that it become difficult to identify tissue of origin such tumour enlarge rapidly, metastasizes early in its course termed high grade or poorly differentiated tumor. A tumor with a microscopic appearance somewhere between these two extremes is labelled a moderately differentiated carcinoma.[1-5]

Treatment

The treatment of hard palate cancer depends on the stage, type and location of tumor. Common treatment modalities include surgery, radiotherapy, chemotherapy, and immunotherapy. Surgery is the primary treatment the goal is to remove the tumor and a margin of surrounding healthy tissue to ensure complete excision. Reconstructive surgery may be necessary to restore function and appearance Radiotherapy uses high energy beams to destroy cancer cells it can be used as primary treatment or in conjunction with surgery to eliminate residual cancer cell Chemotherapy involves use of drugs to kill cancer cells it is typically used for advanced stages of hard palate cancer or when the cancer has spread to other parts of body. Immunotherapy boits the body's immune system to fight cancer it can be effective in treating hard palate cancer.

Conclusion

squamous cell carcinoma is the most common malignant tumor of hard palate the clinical diagnosis is based on search of risk factors. CT scan involves better analysis of bone involvement. Surgical biopsy with immunohistochemical study confirms the diagnosis and excluded another diagnostic hypothesis. Surgical excision is the treatment of choice.

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