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Case Report on Carcinoma on Hard Palate

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Background: The hard palate is a thin horizontal bony plate made up of two bones of the facial skeleton, located on the roof of the mouth. The bones are the palatine process of the maxilla and the horizontal plate of the palatine bone. The hard palate spans the alveolar arch formed by the alveolar process that holds the upper teeth (when these are developed). If cancer is detected early, the overall 5-year survival rate for all persons is 85 percent. If cancer has progressed to other tissues or organs, as well as regional lymph nodes, the overall 5-year survival rate is 67%.
Objective: Want to highlight the importance of primary prevention; education on risks of alcohol/tobacco use and oral hygiene. Secondary prevention; Early biopsy of any ulceration of the hard palate that does not regress with medical treatment. This would allow early diagnosis and minimal treatment with less morbidity and better survival chances.
Case Presentation: A male of 58 yrs. old came with Pain in the mouth, difficulty in breathing, difficulty in mastication, difficulty in deglutition, balm application, change in voice tooth exfoliation, lack of appetite. Aggravates on mastication, difficulty in deglutition for 2 months, burning sensation on the consumption of spicy food for 2 months change in voice, nasal discharge, loss of appetite,

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weight loss, tooth exfoliation in the upper front region of jaw, and balm application (2-3episodes, 15 days back). All necessary investigations were carried out such as X-ray, MRI, CT scan, a biopsy of the tissue sample, and diagnosed Carcinoma on the Hard Palate. Treatment of this patient received antiemetic, analgesic, antibiotic, vitamin supplementary.
Prognosis: After treatment, the patient shows great improvement.
Conclusion: The therapeutic management for malignant tumors of the hard palate is essentially surgical, with or without postoperative radiotherapy, discussed on a case-by-case basis. The survival rate depends on several factors, including early diagnosis, histological characteristics and appropriate management. When ca of the palate is detected primary, the management is very effective.

Keywords: Carcinoma; bony plate; neoplasm staging; Alcohol drinking; smoking.

1. INTRODUCTION

Hard plate cancer is an uncommon malignant tumour. Etiologic factors dominated by alcohol and tobacco consumption, are similar to those of other oral cavity cancers. The anatomical and histological constitution of the hard palate, with a firm attachment of the mucosa to the underlying periosteum and the abundance of minor salivary glands, make the hard palate a site of different histopathologic types of neoplasms. HPC represents approximately 1–3.5% of oral cavity cancers and is most often a squamous cell carcinoma [1]. A variety of treatments have been used to treat hard palate cancer, including surgery, radiotherapy, chemoradiation, and combinations of these modalities [2]. Surgery is the treatment of choice [3]. It is usually performed via a transoral approach without the need to use facial incisions. The choice of the technique is based on the location and size of the tumour in our work we present four cases of HPC treated by a transoral procedure [4].

Hard palate cancer is a type of head and neck cancer that begins when cells that make up the bony part of the roof of the mouth grow out of control and form lesions or tumours. The hard palate creates a barrier between the mouth and the nasal cavity. Cancers that develop there tend to spread into the nasal cavity when they become more advanced. Hard palate squamous cell carcinoma develops from the thin, flat squamous cells lining the mucosal surface of the bone (periosteum) here. The exact cause of hard palate cancer is unknown. Tobacco use, alcohol consumption, precancerous lesions, and weakened immune system are the main risk factors for the formation of hard palate cancers [5].

Using tobacco products and regularly drinking too much alcohol can increase your chances of developing hard palate cancer. Dentists are typically the first to notice the signs of hard palate cancer, often during a routine dental exam. The most common sign of hard palate cancer is an ulcer on the roof of the mouth. As cancer grows, the ulcer may bleed. Other symptoms of hard palate cancer include the following: bad breath, loose teeth or pain around your teeth, dentures that no longer fit, changes in speech, difficulty swallowing, difficulty moving your jaw, a lump in the neck. Hard palate cancer is highly curable when diagnosed early. Treatment often involves surgery performed by a head and neck cancer surgeon [6].

The goals of the treatment of hard palate cancer are to cure cancer, preserve your appearance and the functions of your mouth, prevent cancer from coming back. The extent and depth of cancer guide your plan of care. An operation called a maxillectomy is often part of the treatment. If the cancer is more advanced, radiation, chemotherapy, or both may be used to shrink the tumour before or after surgery. This reduces the risk of cancer coming back. For some people, radiation may be the only treatment needed.

The surgical treatment of malignant tumours of the hard palate must completely remove, with at least 1 cm margin, all the involved tissues with resection of the mucosa and the underlying bone of the hard palate. In our study cervical lymph node metastases were found in three patients, of whom one has Level I Lymph node metastasis with polymorphous low-grade adenocarcinoma and two had Level III lymph node metastasis with squamous cell carcinoma and mucosal melanoma as histological types. Surgical resection is performed trans-orally in almost all cases. The external approach is necessary for very advanced malignant neoplasms and when extending into the para pharyngeal space,

pterygoid-palatal fossa, or masticatory space. Therapeutic neck dissection should be reserved for clinically and radiographically positive cervical lymph nodes. When unclear margins or perineural or perivascular invasion is present, with cervical lymph node involvement. Patients treated for hard palate cancer require a means of restoring the oral-nasal separation lost by removal of the palate and alveolar bone to improve the patient's quality of life [7].

Four major means of rehabilitation have been described in the literature. It includes dental prosthetic when cancer does not involve more than half the hard palate, mucoperiosteal local flap of palatal island flap, regional flaps by temporalis flap allows immediate reconstruction and can be used to correct unilateral and total defects. Otherwise, microvascular-free tissue transfer is an option for larger defects [8].

1.1 Presentation of Case

A male of 58 yrs. old came with a patient complaint of painful non-healing ulcer in the upper front region of the jaw. The patient was apparently alright months back when he experienced a painful non-healing over the upper front region of the jaw over his left nostril area which was initially small it is and gradually increased to its present size. Pain in moth, difficulty in breathing, difficulty in mastication, difficulty in deglutition, balm application, change in voice tooth exfoliation, lack of appetite. aggravates on mastication, difficulty in deglutition for 2 months, burning sensation on the consumption of spicy food for 2 months change in voice, nasal discharge, loss of appetite, weight loss, tooth exfoliation in the upper front region of jaw, and balm application (2-3episodes, 15 days back). History of asthma in the last 2 years, Patient is not on any medication for the same. No history of hypertension, diabetes, jaundice, TB, or bleeding disorder. The patient had a history of treatment in private hospital treatment. The patient has first visited a private hospital at Brahmapuri where an Incisional Biopsy of the lesion was done under LA on 5/10/21. and CT PNS was done. The patient was then referred to SPDC where slide ad-block review was done r/s/o "Moderately differentiated squamous cell carcinoma," All necessary investigation carried out such as X-ray, MRI, CT scan, a biopsy of a tissue sample, after testing Negative for COVID - 19, the patient got admitted to oral surgery ward for further management. The physical examination carried out There is not many abnormalities found in head to foot examination, he is lean and thin and has dull look, and is not active. He is weak and not cooperative. Hb%-9,9 gm%, RBC-3.63millions/mm, WBC-8400/cu.mm, platelets-2.05 lacs/cu.mm, MCV-76.7n, MCH 27.7pico-gm, MCHC-35.6%, Monocytes-04%, Granulocytes-75%, Lymphocytes-20%, Eosinocytes-01%, Biasophiles-00%, urea 15mg%, creatine 0.6mgdl, sodium 133mEq/L, potassium 2.8mEq/L, albumin2.3gm/dl, total bilirubin 0.5mg/dl. and diagnosed Carcinoma on the Hard Palate. Treatment of this patient received antiemetic, analgesic, antibiotic, vitamin supplementary. Inj. Tramadol 50mg in 100 ml NS stat, Inj. DEXA 8mg IV, Inc. Emset 4mg BD, Inj. Neomol 1mg IV BD×3days, Inj. Perinorm 10mg IV BD×2 days, Inj. Ceftriaxone 1.5 gm IV BD×7 days, Inj. Metro 500 mg IV BD×5 days, Inj. Amikacin 500 mg IV BD×5 days, Inj. Pan 40 mg IV BD×7 days, Tab. Chymoral forte BD×7 days, Tab. Supradyn OD×7 days, Tab. Emcee 500 mg BD×15 days.

1.2 Prognosis

After getting treatment, he shows great improvement and the treatment was still going on till my last date of care.

Figs. 1 and 2. Non-healing ulcer in the upper front region of the jaw

2. DISCUSSION

A male of 58 years from admitted to AVBRH with a rare case of hard palate carcinoma. His weight is 45 kg and his height is 158 cm and his BMI is 18.03. Admitted to hospital and all investigation and treatment were started. After getting treatment, she shows great improvement and the treatment was still going on. It is important to note that a patient could have one or more of these symptoms and not have hard palate cancer [9]. There are several non-cancerous causes of the same symptoms. That's why it's especially important to seek medical advice from a specialist. After diagnosing a patient with hard palate cancer (cancer involving the hard palate and the maxilla, or upper jaw), a doctor will need to determine what type of cancer it is, the grade of the tumour, and the stage of cancer-based on a biopsy or more often by the pathology after surgery [10]. It is important to note that oral cancers can sometimes be difficult to diagnose. If a doctor is having a hard time determining what type of cancer it is, he or she might ask for a second opinion and send some pieces of the tumor off to a specialist in head and neck pathology who deals more frequently with these types of tumors [11]. The most common type of hard palate cancer is squamous cell carcinoma. More than 90% of mouth cancers are squamous cell carcinoma. Squamous cell carcinoma is cancer that starts from abnormal cells on the surface layer of the lips or the lining of the mouth. If the cancer is discovered at an early stage, before invading past the deepest layer of the mouth lining, then it is called carcinoma in situ and has a good prognosis when removed. Another subtype is called verrucous carcinoma. This subtype usually has a slow growth pattern and is less likely to spread to lymph nodes in the neck or other parts of the body. For hard palate cancer, complete surgical removal of the tumour is almost always the first treatment, unless a doctor decides that it is not possible or safe to proceed with surgery. Hard palate cancers may be treated with soft tissue resection, a maxillectomy, or a neck dissection [12].

The surgery that a doctor recommends will depend on the location and extent of cancer, as well as the stage. The management of the maxilla and hard palate bones, as well as the lymph nodes and other structures in the neck, are important factors to consider when planning surgery for hard palate cancer [12].

Restoration of function to this region is vitally important since most cancer operations involving this region led to an opening in the palate and a loss of some of the upper teeth. Various forms of restoration of these types of defects have been employed and may include the use of a prosthesis, known as a palatal obturator, or any of a variety of reconstructive techniques. Patients and their care teams should discuss the types of surgeries that may be required for the treatment of their cancer. The most common use of radiation for the treatment of hard palate cancer is called adjuvant radiation, which is radiation given after surgery to decrease the chances that the tumour will come back [13].

A doctor may recommend this type of post-surgical radiation for the following reasons, among others: If the tumour was not completely removed or if the surgical margins were positive for cancer. If the type of cancer was determined to be aggressive or of a high grade or T-stage. If cancer had spread to lymph nodes or other structures, such as nerves or vessels. In some cases, complete surgical removal of a hard palate cancer may be impossible or unsafe, and a doctor may recommend radiation therapy as the primary treatment. In this type of treatment, an external beam of radiation is directed at the tumour to destroy the rapidly dividing cancer cells.

Chemotherapy is not commonly used to treat hard palate cancer. In some cases, it is used in combination with radiation as an additional treatment following surgery. Chemotherapy is usually only added to adjuvant radiation therapy if there is the extranidal extension from cancerous lymph nodes in the neck, or if there is cancer left behind during surgery [14].

Patients should visit their head and neck specialist on a regular schedule (or earlier if they have any concerning symptoms). This allows doctors to monitor the patient for any sign that cancer has returned. The best timeline for follow-up will be determined by the doctor.

Standard Follow-up Schedule

- For the first year, go every 1-3 months.
- For the second year, go every 2-6 months.
- For the third to fifth year, go every 4-8 months.
- After five years, start going once annually.

Doctors may select a scan to be performed in the first 6 months after treatment. The first scan serves as a "baseline" study to compare future studies. This will depend on the type and location

of cancer. Imaging could range from something as simple as a quick chest X-ray to more extensive tests such as a CT, MRI, or PET scan. If something suspicious comes up, a patient may need a biopsy [15].

3. CONCLUSION

Squamous cell carcinoma is the most common malignant tumour of the hard palate. The clinical diagnosis is based on a search of risk factors, a complete ENT examination, and endoscopic examination. CT scan allows a better analysis of bone invasion, while MRI retains its place in the evaluation of local and regional tumour extension. Surgical biopsy with immunohisto-chemical study confirms the diagnosis and excludes another diagnostic hypothesis.

Surgical excision is the treatment of choice. All our cases have been treated through an intraoral approach with elective neck dissection when pathological lymph nodes are found. Radiotherapy is considered in the case of advanced-stage disease, buccal extension, positive margins, perineural spread, or multiple lymph node metastases.

The reconstruction of a defect after surgical resection is advisable. It restores almost immediately the phonetic and masticatory functions and it allows direct visualization of the primary site for recurrence detection as in case [16].

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline patient's consent and ethical approval has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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