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# Restrospective Study of Histopathological Data of Oral Malignancies of Patients in Government Thiruvarur Medical College

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**Abstract**
**Aim:** *To determine the type of oral malignancyin GTMCH, THIRUVARUR and correlate cases at the time of diagnosis with HPE reports.*
**Materials and Methods:** *The study was conducted in Government Thiruvarur Medical College and Hospital. The study was based on histopathological reports of biopsies of oral tissues.*
**Results:** *Of the 45 oral biopsy reports retrieved 30 were male patients and 15 were female patients. The study showed men are affected more than females. Squamous cell carcinoma has a incidence of 84% compared to other types of cancer. The incidence of squamous cell carcinoma is more in people above age 60.*
**Period of Study:** *October 2016 to March 2017 Six Month Study at Government Thiruvarur Medical College Hospital, Thiruvarur.*

**Carcinoma of the Cheek**

This condition is more common in Indian subcontinent than in Western countries. The reason is that people of this subcontinent often indulge in chewing the betel-nut and keep the quid of it in the cheek. Such carcinomais often called verrucous carcinoma (tobacco chewer's carcinoma).

Such cancers are initially soft, non-indurated papillary growths which later ulcerate. The lesion gradually invades and destroys the underlying soft tissues and bone. There may be leukoplakia to start with and this ultimately turns into malignancy.

In Western countries, it is more common among those who smoke heavily and drink alcohols. A few carcinomas may arise in Candida infected speckled leukoplakia.

**Pathology:** These carcinomas are usually squamous cell carcinoma. There are numerous branching projections of well differentiated epithelium each of which is covered by a layer of parakeratotic cells. At the base of the lesion rete pegs are long and club-shaped and extend into chronically inflamed connective tissue.

**Introduction**

Cancer is the major cause of morbidity and mortality all over the world and is one of the leading causes of death in all societies with its relative position varying with age and sex. Oral and oropharyngeal carcinomas are the sixth most common cancers in the world. The incidence of squamous cell carcinomas is highest. Oral cancers have a significant impact on patients quality of life, because of functional loss that results with the treatment modalities even with the highest care rendered.

**Causes**

- Smoking
- Spirit
- Sepsis
- Superficial glossitis
- Spices
- Sharp tooth
- Pan chewing
- Chronic oral candidiasis

SPREAD to regional lymph nodes may occur but distant metastasis is rare. Local recurrence rate is high.

**Clinical Features:** Carcinoma of the cheek is presented as an ulcer, a fissure or a papilliferous growth. Most of the verrucous carcinomas are papilliferous growths. There may or may not be foul-smelling discharge. Carcinoma of the cheek is usually a slow growing tumour.

Cervical lymph nodes should always be palpated as secondaries are common in the regional lymph nodes.

**Treatment:** (i) Adequate excision often gives satisfactory result.

Where the facilities of radiotherapy are available, surgery is indicated in —

(a) Recurrent tumours; (b) Residual tumours; (c) Radiotherapy failure cases.

Where facilities of radiotherapy are not available surgery is the main treatment.

The resulting defect may be made good by rotation flap or reflecting a flap of skin from the temporal region.

Pedicle grafts may be applied. When the skin from the temporal region is taken, the buccal aspect of the cheek is now lined with the skin.

(ii) Radiation therapy plays an important role in the treatment of carcinoma of the cheek. If the service of experienced radiotherapist is available, this treatment may be tried first. Interstitial radiation may be given by192Iridium wire. External irradiation is given by megavoltage machines.

(iii) If cervical nodes are involved block dissection is necessary.

**Carcinoma of the Tongue**

Carcinoma of the tongue is a common lesion. It accounts for more than half of all intraoral carcinomas.

**Pathology:** Carcinoma of the tongue occurs mostly on the anterior 2/3rds at or near the edges and 50% of carcinomas are seen in this region. 20% is seen in the posterior third of the tongue. In the dorsum and in the tip 10% each.

In this latter region it usually arises in a gummatous ulcer. 10% can occur on the undersurface of the tongue.

**Macroscopically,** four types can be seen
(i) An ulcer,
(ii) A warty growth,
(iii) An indurated plaque or mass,
(iv) A fissure.

The ulcerative variety is by far the commonest. Sometimes no lesion can be seen but an induration can be felt. The warty form is usually superimposed on leukoplakia.

**Microscopic Features** depend mostly on the part of the tongue affected.

In the anterior 2/3rd epidermoid carcinomas with cell-nest formation is mostly seen.

In the posterior 3rd of the tongue it may be (i) basal cell type, or (ii) transitional type or (iii) lymphoepithelioma.

Very rarely one can come across adenocarcinoma or malignant melanoma in the tongue

**SPREAD OF CARCINOMA**

**1. LOCAL SPREAD:** As carcinoma in other parts of the body local spread occurs by infiltration and invasion. Carcinoma of the anterior 2l3rds of the tongue usually starts on the lateral margin of the tongue and invades the floor of the mouth early but it remains limited to the side affected and does not extend to the other side across the midline.

Carcinoma of the posterior 3rd of the tongue tends to spread to the corresponding tonsil, epiglottis and soft palate.

**2. Lymphatic Spread:** Like other carcinomas in the body lymphatic spread is quite early.

Regional lymph nodes are affected by embolic spread and not by permeation, so that the intervening tissue isnot involved.

(i) From the tip the lymphatics pass through the floor of the mouth to the submental groups of lymph nodes of both sides. One set of lymphatics from the tip of the tongue also pass to the juguloomohyoid gland.

(ii) From the anterior 2/3rds the lymphatics drain into the submandibular lymph nodes lying in relation to the submandibular salivary glands. Some of the glands may be embedded in the substance of salivary glands.

(iii) On the posterior third of the tongue lymphatics drain into the jugulodigastric group of the upper deep cervical nodes on both sides of the neck. A few pass to juguloomohyoid group.

(iv) The central lymphatics from either side of the median raphe of the tongue pass vertically downwards in the midline of the tongue between the two genioglossi which often decussate and then pass some to the leftand some to the right to the jugulodigastric group of lymph nodes.

The jugulodigastric group of the upper deep cervical nodes ultimately receives the efferent lymphatics from the submandibular and submental groups, so that in later stages the jugulodigastric group will be involved regardless of the original site of the tumour.

It should be remembered that secondary infection of the growth also causes enlargement of the draining nodes. So enlargement of the draining lymph nodes do not always mean lymphatic metastasis.

More patients with posterior 3rd cancer present with lymph node metastasis. The reason is that the growth remains occult and when the patient presents it is in relatively late stage.

**3. Blood Spread:** It is very rare and extremely late in occurrence. It is only seen when the growth is in the extreme posterior part of the tongue.

**Clinical features**

**History**

**(i) Age:** The patients are usually over 50 years of age. The pick incidence is seen in the 6th decade.

**(ii) Sex:** Though previously males were affected more when syphilis was not uncommon, yet now the incidence is almost equal in both the sexes with probably slight preponderance towards males

**Symptoms**

(i) The commonest complaint is a painless lump or an ulcer on the surface of the tongue.

(ii) Excessive salivation gradually appears along with the growth.

(iii) Foetor oris

(iv) Ankyloglossia or immobility of the tongue occurs due to extensive carcinomatous infiltration of the lingual musculature. It becomes even worse when the floor of the mouth is involved and ultimately this causes difficulty in speech.

(v) Pain: Carcinoma is always painless to start with, but in late cases the patient may complain of pain due to involvement of the nerves. Pain may be experienced in the tongue or may be referred to the ear. When the lingual nerve is involved pain may be complained of and such pain may be referred to the ear through auriculotemporal nerve another branch of the 3rd division of the 5th cranial nerve (mandibular nerve).

(vi) Hoarseness of the voice and dysphagia.— Both these symptoms are only complained of when the growth is in the posterior 3rd of the tongue and has involved pharynx and larynx.

(vii) Lump in the neck — due to enlarged cervical lymph nodes.

It must be remembered that growth situated on the posterior 3rd of the tongue often escapes notice of an intelligent patient and even the clinician if he does not examine the case carefully. Such patients often present with hoarseness of the voice, dysphagia, difficulty in speech or even lump in the neck.

**Treatment**

Treatment can be divided into two groups

A. Treatment of the primary growth and

B. Treatment of the secondary lymph nodes.

**Treatment of the primary growth**

Ancillary treatment.— (i) A swab from the ulcer is taken for bacteriological report, culture and sensitivity tests. Suitable antibiotic should be started immediately.

(ii) Mouth should be cleansed by antiseptic mouth washes.

(iii) If there is presence of carious tooth or gingivitis this should be treated simultaneously.

(iv) Investigation must be made to exclude syphilis.

Two modes of treatment may be used for primary growth — SUGERY and RADIOTHERAPY.

**Surgery:** (a) If the growth is less than 1 cm in diameter — the growth is removed alongwith a wide margin of mucosa of not less than 1 cm. This excised growth should be sent for histopatho-logical examination.

Monthly follow-up should be continued.

(b) In case of larger growth preliminary treatment should be radiotherapy. Only in those cases where radiotherapy fails to respond, surgery is indicated. In these cases if the growth is localised to anterior 2/3$^{rd}$ the tongue, partial glossectomy or subtotal glossectomy should be carried out.

(c) When the growth reaches within 2 cm of the jaw, radiotherapy may not be successful as this causes necrosis of the mandible. In these cases hemimandibulectomy may be required alongwith excision of the growth.

**Radiotherapy:** (a) When the growth is more than 1 cm in diameter in the anterior 2/3rds, the preliminary treatment is radiotherapy in the form of interstitial radiotherapy.

Radium needles, Radon seeds or radioactive tantalum wires or192 Iridium wire are placed in the growth in one plane with a distance of 1 cm. When the growth is deeper and extends more than 1 cm into the tongue, it is difficult to treat these

growths with interstitial radiotherapy and teletherapy should be used.

(b) Teletherapy — in which cobalt 60 unit is used. This therapy is particularly useful in the posterior l/3rd of the tongue, where interstitial radiotherapy is also difficult to employ. When the lesion is large than 2 cm in diameter it is usually irradiated by external beam irradiation. The submandibular nodes are also included in the field even if no nodes are palpable.

(c) If there is large tumour with palpable nodes, both primary and the neck are irradiated to 4500 rads. Then 6-8 weeks later an excision is carried out in continuity
(Commando operation).

**Chemotherapy:** Role of chemotherapy in tongue cancer is still in doubt. Regional intra-arterial administration of a cytotoxic drug e.g. amethoprin (50 mg/day for 5 days) may reduce the size of the growth, but long term result is not encouraging.

B. Treatment of the secondary lymph nodes.—

(a) When the lymph nodes are not enlarged, regular follow-up should be carried out.

(b) If the lymph nodes are palpable and they are secondarily involved by metastasis, the treatment is block-dissection. Sometimes block-dissection may be performed along with haemiglossectomy and this is called Commando operation.

(c) When the enlarged lymph nodes are fixed and cannot be excised, deep X-ray therapy may be employed. Role of radiotherapy is extremely poor so far as treatment of secondaries is concerned.

**Palliative Treatment:**

1. In case of large fixed primary growth deep X-ray therapy will be tried.

2.When the primary recurs even after radiotherapy and surgery, cryosurgery may be tried.

3. In case of extreme pain due to advanced growth, blocking of the trigeminal nerve with 5 % phenol may be considered.

Patients with tongue cancer die from following conditions:—

(i) Cancerous cachexia and starvation.

(ii) Inhalation bronchopneumonia.

(iii) Asphyxia due to oedema glottis or cervical lymph nodes pressing on air passages.

(iv) Haemorrhage from involved cervical lymph nodes ulcerating and eroding an artery.

**Prognosis:** The 5 years survival rate of cancer tongue is not more than 25%.

**Carcinoma of the Lip**

(i) Lip carcinoma accounts for approximately 15% of all malignant diseases of the face and head and roughly 1% of all cancers.

(ii) The lower lip is affected in more than 90% of cases, upper lip in only 5% of cases and 2% occurs at one of the angles of the mouth.

(iii) 90% of the cases are seen in males.

(iv) This carcinoma is rarely seen in individuals below the age of 40 years. Incidence increases with advancing age with highest incidence in the 6th decade.

**Pathology**

**Macroscopically,** the disease begins as a flat nodule or an indurated crack at the skin vermilion junction. Almost all lip cancers originate in this area. Then it may take either of the two forms — (1) indurated nodule, warty mass or exophytic lesion or (2) endophytic lesion or ulcerated lesion. The ulcer presents hard and raised edges characteristic of malignancy. As the ulcer spreads it gradually destroys the lip and the tissues covering the chin. It may finally involve the mandible. If the carcinoma involves the commissure, the prognosis is worse.

**Microscopically,** epidermoid carcinoma accounts for 99% of all lip cancers. These are usually well

differentiated, mostly grades I and II. Basal cell carcinoma occasionally appears on the lips. Melanoma is also occasionally seen primarily in the lip.

**SPREAD:** The disease is locally malignant. Lip cancer spreads to regional lymph nodes late. The route is to the facial and sub mental lymph nodes and the nodes along the anterior portion of the submandibular gland.

The efferents from all these nodes reach the upper deep cervical group. The lymphatics from the upper lip drain into the preauricular and submandibular lymph nodes directly. Lymph node involvement may be noted within3 months of the disease but frequently it is delayed for 9 to 12 months.

It should be remembered that the lymph nodes may be involved, but may not show any enlargement OR may be enlargement of lymph nodes but it is inflammatory and not malignant.

Invasion of the mandible may also occur but late. It occurs via direct soft tissue extension usually entering the mental foramen to reach the marrow cavity. Some pathologists presume that the lower jaw may be involved along the perineural lymphatics.

Distant metastasis to the lungs and liver may occur late. This is also extremely rare.

**Death** occurs usually due to uncontrolled tumour in the neck.

**Symptoms:**

(i) Usual presentation is a nodule or an ulcer which fails to heal.

(ii) The lesion may bleed or there may be offensive discharge.

(iii) The lesion is painless.

(iv) Patient may draw attention of the clinician to the swellings under his chin (lymph node involvement).

**Treatment:**

**Surgery:**

1. SMALL PRIMARY lip cancers of the well differentiated type are adequately treated by local resection. The V-excision is a popular method.
2. FOR LARGER LESIONS excision of more than half of the lip may be required.
3. Excision of the lesion should accompany a wide margin of surrounding healthy tissue

**Radiotherapy** still has many advocates as a primary modality in the treatment of lip cancer. A typical course of radiation therapy lasts several weeks with daily treatments 5 times a week which is followed by breakdown of the tumour and slow healing. In favourable lesions the cure rate for radiation therapy is 80% to90% almost similar to surgery. However the radiation therapy produces considerable morbidity and usually does not treat the regional nodes. Prior radiotherapy may increase the problem of wound healing if recurrence develops and surgery is then required.

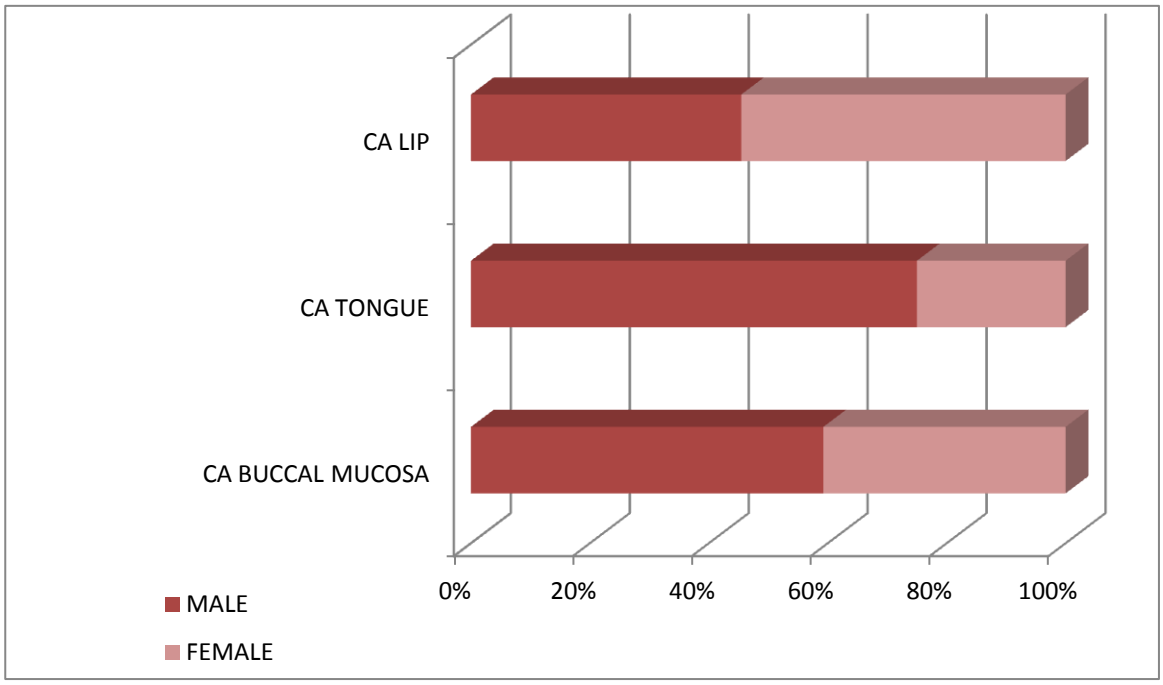
**Treatment of Secondary Lymph Nodes:** When regional lymph nodes are involved, these should be excised and examined histopathologically. Metastasis, if reaches cervical nodes, may reqire cervical block dissection.

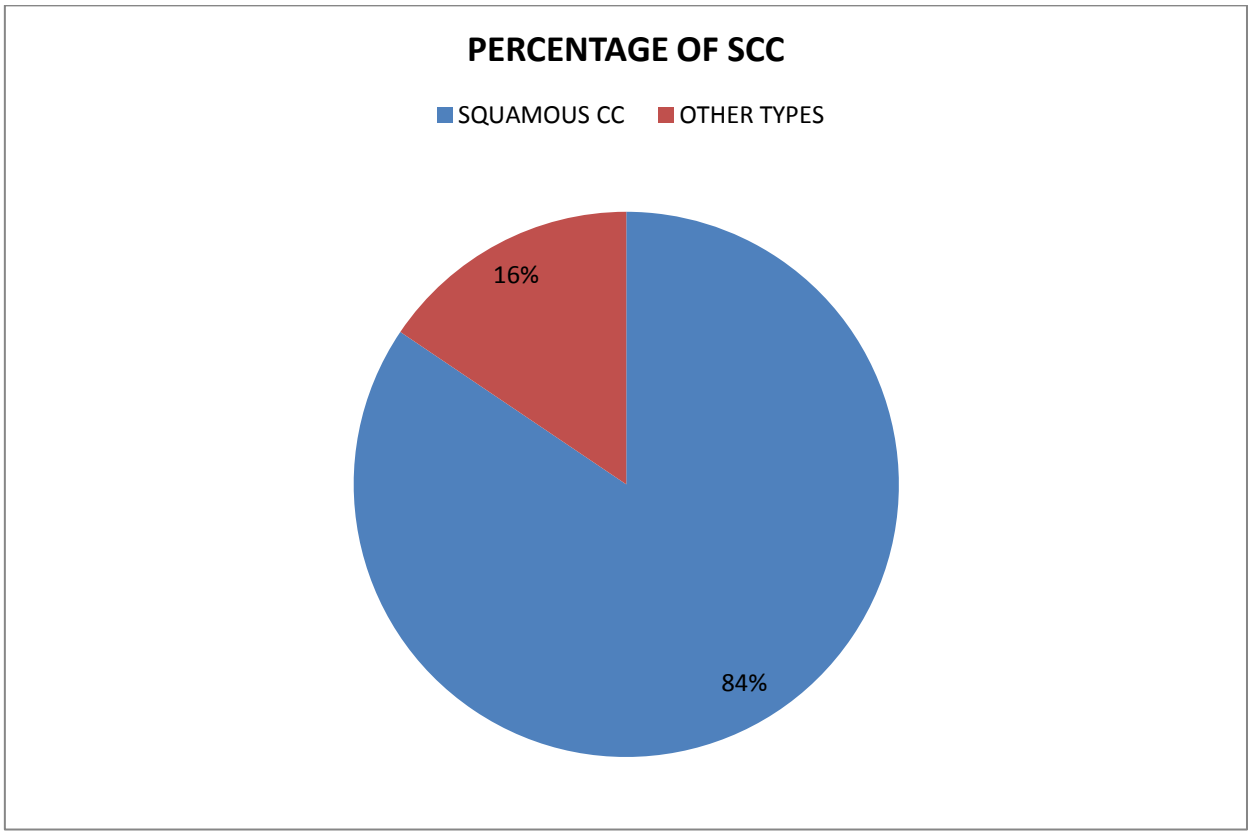
**Melanomas of the Lip** require wide surgical resection in continuity with node dissection of the neck. Both radiotherapy and chemotherapy are ineffective in melanoma.

**Results**

**Statistics Based On Sex**

| Category | Male | Female |
|---|---|---|
| Ca Buccal Mucosa | 16 | 11 |
| Ca Tongue | 9 | 3 |
| Ca Lip | 5 | 1 |
| **Gross** | 30 | 15 |



**Statistics of Method Managed**

**Carcinoma Buccal Mucosa**

| Method | Procedure Done | Census |
|---|---|---|
| Operable | Resection With Pm Flap | 2 |
| Inoperable | Chemo Irradiation | 25 |

**Carcinoma Tongue**

| Method | Procedure Done | Census |
|---|---|---|
| Operable | Hemiglossectomy | 4 |
| Inoperable | Chemo Irradiation | 8 |

**Carcinoma Lip**

| Method | Procedure Done | Census |
|---|---|---|
| Operable | Flap Technique | 1 |
| Inoperable | Chemo Irradiation | 5 |

**Conclusion**

Most patients were Men (66%) compared to Females (34%). Buccal mucosa was predominantly affected compared to tongue and lip. Squamous cell carcinoma accounted for 84% of total malignancies and predominant in age group of above 60 years. Out of 45 cases,38 were inoperable and all were found to be squamous cell carcinoma.

**Review of Literature**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