



## Malignant growth Maxilla management an analysis

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### Abstract:

Malignant tumors involving maxilla is rather rare. This comprises about 1% of all malignant tumors seen in humans. This tumor constitutes roughly 3% of all head and neck malignancies. This article discusses our experience in managing patients with malignant tumors of maxilla. All our patients underwent total maxillectomy followed by post operative irradiation. Mean survival rates of our patients ranged from 2.5 years to 3 years. Survival rates were also dependent on the histology of the tumor. This is a retrospective study of patients who presented to our Institution between 2006-2010. In our study we found that surgery had a definitive role despite the staging. Even advanced cases had a definite improvement in the quality of life. All our patients received post operative irradiation (full course) following total maxillectomy.

### Introduction:

Malignant tumors of nose and paranasal sinuses constitute about 1% of all malignant tumors<sup>1</sup>. These tumors also constitute about 3% of head and neck malignancies. Malignant tumors of maxilla are more common in males infact twice as common as in females. They are commonly diagnosed in patients in the age group of 50 – 70 years<sup>2</sup>.

Histologically the commonest type of malignancy in this area is squamous cell carcinoma<sup>3</sup>. Other histological types like adenocarcinoma, sarcomas, neuroblastomas, lymphomas and malignant melanomas are rare<sup>4</sup>.

These tumors are very difficult to treat because:

1. Of the complex adjacent anatomy (orbit, skull base etc)
2. These patients present fairly in the late stage of their disease

The aim of this paper is to study patients with malignant tumors of maxilla who underwent treatment at Stanley Medical College Chennai India during 2006-2010.

1. To study the symptoms with which they presented with
2. To study the clinical features on admission
3. To ascertain the stage of the disease
4. To decide on the optimal treatment modality

#### Materials and methods:

This retrospective study was carried out in 15 patients who presented with malignant tumors of maxilla who presented for treatment at Stanley Medical College Chennai India. These patients presented themselves during 2006-2010 period. Complete clinical examination was performed in all these patients with special care to note down facial asymmetry features. Ophthalmologic examination was performed to assess not only acuity of vision but also for the presence of complete range of ocular movements and presence or absence of globe displacements.

Ear examination was routinely performed in all these patients to rule out eustachean tube dysfunction. Complete intra oral examination was performed to rule out involvement of palate, anterior wall of maxilla, pterygopalatine fossa. Trismus if present was also documented which could indicate tumor involvement of pterygoid muscles. Cranial nerve examination was performed in all these patients. Tumor staging was done after reviewing CT scan images, and clinical examination records. CT scan imaging was studied with specific attention to involvement of lamina papyracea, floor of orbit, fovea ethmoidalis, pterygoid plate involvement etc. Biopsy was performed in all these patients from the nasal mass. Diagnostic nasal endoscopy was also performed in all these patients.

#### Results:

Our study showed -

1. All 15 patients had squamous cell carcinoma
2. 12 patients were males and 3 were females
3. Staging – T2 = 6 patients  
T3 = 5 patients  
T4 = 4 patients

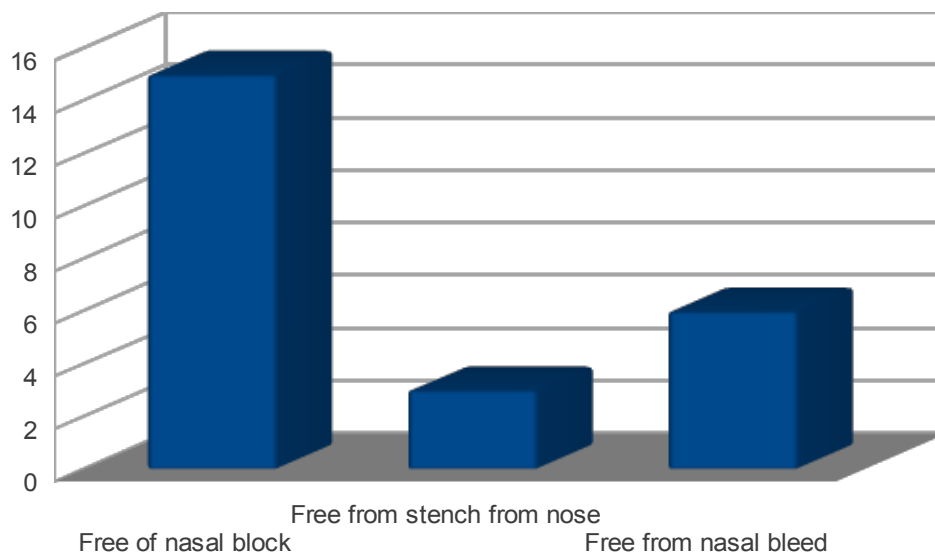
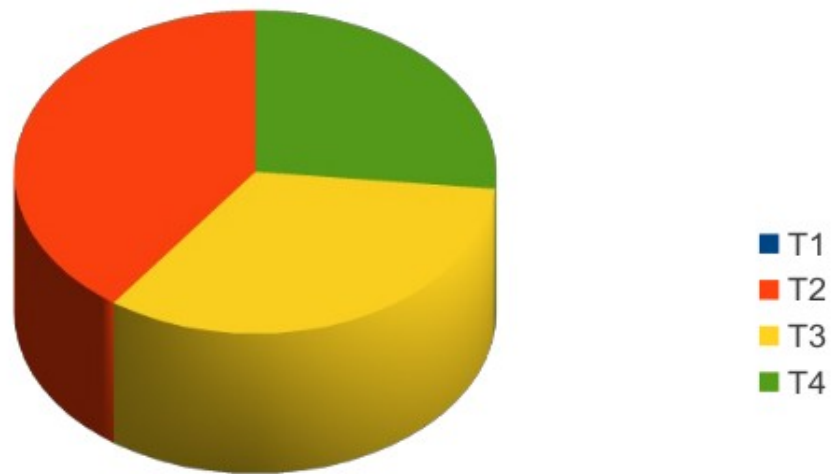


Chart showing improvement in quality of life following surgery



Pie chart showing number of patients according to T stage during presentation

3. None of the patients taken up for study showed lymph node enlargement

4. Presenting symptoms included: Nasal block = In all patients

Epistaxis = 6 patients

Nasal discharge = 15 patients

Loosening of teeth = 12 patients

Proptosis = 3 patients

Trismus = 1 patient

Cheek swelling = 15 patients

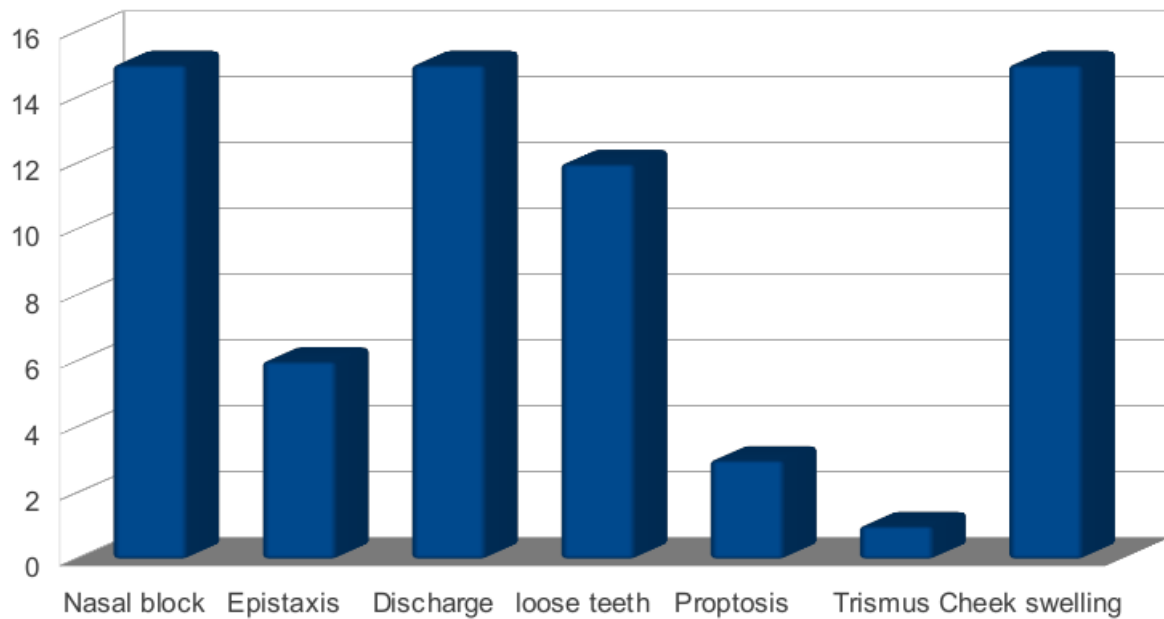


Diagram illustrating the symptoms manifested by these patients

5. All our patients were treated with a combination of total maxillectomy followed by post op irradiation 6 weeks after surgery.
6. All of our patients had good vision and hence orbital exenteration was not resorted to
7. Mean survival rates ranged from 2.5 – 3 years

#### Discussion:

Malignant tumors involving maxilla has poor prognosis because they present late <sup>5</sup>. None of our patients presented with T1 lesion. Proximity of vital structures like orbit, and skull base added to poor prognosis. Our survival rates were slightly better <sup>6</sup> when compared to the study conducted by Brigham and Women's Hospital in Boston because of the combined modality of treatment followed. None of our patients lived beyond 3 years. Major cause of mortality was local recurrence. Majority of our patients were males i.e. 12. <sup>7</sup> All our patients had significant improvement in their quality of life following surgery irrespective of the stage of the lesion.

Prognosis is determined by: <sup>8</sup>

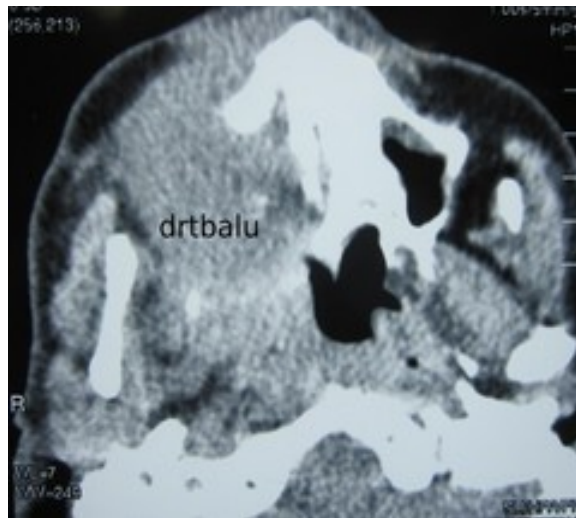
1. Stage on presentation
2. Histology of the lesion
3. Involvement of orbit and skull base



Figure showing patient with nasal discharge



Figure showing palatal mass



Axial CT cut showing erosion of pterygoid plate by the mass



Coronal CT scan showing mass eroding hard palate



Figure showing the patient after removal of maxilla

#### References:

1. Grant RN, Silverberg E. Cancer Statistics 1970. American Cancer Society, New York, 1970
2. Carrau RL, Myers EN, Johnson JT. Paranasal sinus carcinoma – diagnosis, treatment, and prognosis. *Oncology* 1992;6:43-50.
3. Kraus DH, Roberts JK, Medendorp SV, et al. Non squamous cell malignancies of the paranasal sinuses. *Ann Otorhinolaryngol* 1990;99:5-11.
4. Spiro JD, Soo KC, Spiro RH. Non squamous cell malignant neoplasms of the nasal cavities and paranasal sinuses. *Head Neck* 1995;17:114-118.
5. Tiwari R, Hardillo JA, Mehta D, et al. Squamous cell carcinoma of maxillary sinus. *Head Neck* 2000;22:164- 169.
6. Bhattacharyya N. Factor affecting survival in maxillary sinus cancer. *J Oral Maxillofac Surg* 2003;61:1016- 1021.
7. Lewis JS, Castro EB. Cancer of the nasal cavity and paranasal sinuses. *Journal of Laryngology Otology* 1972; 86: 255.
8. Paulino AC, Marks JE, Bricker P, Melian E, Reddy SP, Emami B. Results of treatment of patients with maxillary sinus carcinoma. *Cancer* 1998;83:457-465