



Prognostic factors in malignant parotid carcinoma: A single Centre study

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ABSTRACT

Objectives- To assess the prognostic factors in malignant parotid carcinoma influencing local and distant recurrence

Methods- The present study is prospective observational study comprised of 42 patients of operable parotid carcinoma treated at our institute, from 2005 to 2010. All patients were already undergone parotidectomy ± neck dissection followed by radiotherapy in some patients based on final histopathological report.

Results- Out of 42 patients, 28 were male and 14 were female. Mean age was 50 years. Mucoepidermoid carcinoma was most common pathology, present in 30 (71%) patients. Twelve patients showed recurrences, (8 local recurrence, 2 local + distant and only 2 distant recurrence). Out of these 12 patients 9 patients showed high grade, 8 patients were T4 and 6 patients presented with facial nerve palsy.

Conclusion- Presence of high clinical stage, facial nerve palsy at presentation, high tumor grade are poor prognostic factors in malignant parotid carcinoma.

Limitation- Small sample size. A prospective multicentric study with large sample size is needed for better understanding of male breast cancer.

KEYWORDS : Malignant parotid carcinoma, High grade, High stage

Introduction-

Malignant parotid tumors are comparatively rare tumors worldwide. It constitutes less than 3% of all malignant head and neck tumors.¹ They have a very good prognosis if identified at an early stage. Although several factors have been recognized to have influence on prognosis and treatment outcome in patients with parotid carcinoma, but still due to their rarity and long natural history, it is difficult to determine prognostic factors and treatment outcome.

Material & methods-

Present study was observational study conducted at Gujarat Cancer and Research Institute from 2005 to 2010. A Total of 42 patients who already undergone parotidectomy, were included in the study. Patients with distant metastasis were excluded from the study.

Follow-up-

During first year, patients were seen after every 3 months period and underwent a complete examination, including chest radiography, liver ultrasonography. Thereafter, the patients were seen once a year and underwent annually CT scan head & neck. Other examinations were performed whenever they were clinically indicated. The median follow-up was five years. The main data for all patients were recorded and results were made with proper statistical methods.

Results:-

This study is a prospective observational study in which 31 patients with operable malignant parotid tumor were included. Various results are given below-

Table 1 showing distribution according to age & sex

Age Group(years)	Male	Female
31-40	3	2
41-50	5	2
51-60	14	7
61-70	4	2
>70	2	1

Mean age is 50 years. This study is male predominating study with M:F is 2:1.

Clinical staging was done according to AJCC 7th edition staging criteria. Stage wise distribution in this study was as follows-Stage 1 -five patients, Stage 2 -thirteen patients, Stage 3 -ten patients and Stage 4 -fourteen patients. No neoadjuvant chemotherapy was given. Only one patient had received preoperative radiotherapy as he was not fit for surgery due to bad pulmonary function and was subsequently operated upon. Superficial parotidectomy was done in 20 patients, total conservative parotidectomy was done in 15 patients and radical parotidectomy was done in five patients. In two patient distal mandibulectomy done along with radical parotidectomy. Neck dissection was done in patients having cN+ and cT4. Modified radical neck dissection (MND) type 2 preserving the spinal accessory nerve and internal jugular vein was done in ten patients. Four had cN1 disease. In four patients radical neck dissection was done. Results of final histopathological reports are shown below-

Table 2 showing pathological types

Pathologic type	No. of patients	Percentage
Mucoepidermoid Ca	30	70 %
Squamous cell Ca	4	9.5 %
Poorly diff. Ca	3	7.1 %
Adenoid cystic Ca	2	4.6 %
Acinic cell Ca	2	4.6 %
Clear cell Ca	1	2.3 %

Table 3 showing histopathological results

	No. of patients	Percentage
Node +ve	10	23 %
Perinueral invasion	6	13.8 %
Lymphovascular invasion	5	11.5 %
Positive margin	2	4.6 %

A total of 12 patients showed recurrences. An interesting fact noticed that there was strong correlation between recurrence and tumor grade, stage, facial nerve palsy, perineural invasion and lymphovascular invasion as shown in the table below-

Table 4 showing distribution according to recurrence

Factors	Recurrence +nt	Recurrence-nt	Positivity rate (%)
High grade	9	4	70 %
T4 lesion	8	7	53 %
Facial nerve palsy	6	1	85 %
Perineural invasion	6	5	83 %
Lymphovascular invasion	5	4	80 %

Discussion-

Parotid gland carcinoma is an infrequent tumor. These tumors are of much interest because of remarkable variability in clinical presentation, etiologic factors and prognostic factors. These tumors require sound surgical skill and knowledge of anatomy to avoid complications.

In the present study, mean age was 50 years. In the similar study done by Mckenzie² and Khazanchi et al³ mean age was 55 years and 50 years, respectively. Present study was male predominated study and similar results shown by Fenn et al⁴ and Renehan et al⁵ regarding sex distribution.

Mucoepidermoid carcinoma was the most common histologic type (70 %) in the present study. In the similar study done by Jesus Souza⁶ showed Mucoepidermoid as the most common histology.

For the current study, we explored the prognostic factors related to nonmetastatic parotid gland carcinoma and associated with disease recurrence based on data that were obtained from a single tertiary cancer referral center. T classification is reported consistently as a stronger prognostic factor for parotid gland carcinoma, in the present study and this fact supported by other similar studies.^{8,9}

Tumor grade, facial nerve paralysis, perineural invasion and lymphovascular invasion has been reported in the literature as a poor factors for prognosis.^{10,11} In the present study all these factors are associated high rate of recurrence and poor prognosis factors.

Conclusion-

Presence of high clinical stage, facial nerve palsy at presentation, high tumor grade, perineural invasion and lymphovascular invasion are poor prognostic factors in malignant parotid carcinoma.

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