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POSTER

Minimally invasive video-assisted parathyroidectomy (MIVAP) for parathyroid adenoma

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Background: Conventional open unilateral or bilateral exploration for hyperparathyroidism is more invasive procedure with more complications. This paper is to investigate the feasibility and effectiveness of minimally invasive video-assisted parathyroidectomy (MIVAP) for parathyroid adenoma.

Materials and Methods: The parathyroid adenoma was detected by hypercalcemia and an elevated serum parathyroid hormone (PTH), and abnormal methoxy isobutyl isonitrile (MIBI). The parathyroid adenoma was located by sonography before operation. A 2 cm skin transverse incision was made above the suprasternal notch. Without gas insufflation, cavity was built with retractor. Pathological parathyroid was searched and ectomized with the assistance of endoscopic instruments and ultrasonically activated scalpel.

Results: Single adenoma of parathyroid was located in all 17 patients (the accuracy of MIBI and sonography was 100%). The operation (MIVAP) was successfully accomplished. The mean operative time was 35 minutes. Transient hypoparathyroidism developed in 10 cases without palsy of the recurrent nerve and postoperative bleedings. All the patients were followed for 2-18 months (mean, 9 months), with satisfactory curative (normal calcemia and PTH, alleviated symptoms) and cosmetic results.

Conclusions: MIVAP appears to be safe and curative procedure with better postoperative outcome and better cosmetic results.

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POSTER

Radiosensitization with a COX2 inhibitor with chemoradiation for head and neck cancer

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Background: COX2 expression is seen in 100% of head and neck squamous cell carcinomas. COX2 overexpression results in inhibition of apoptosis and enhancement of tumor angiogenesis. COX2-mRNA levels in serum have been found to correlate with squamous cell carcinomas of head and neck and directly proportional to the tumor burden. Cyclo-oxygenase 2 (COX2) inhibitors have shown promise as radio- and chemosensitizers. We conducted a study to evaluate the toxicity and efficacy of Etoricoxib, a selective COX2 inhibitor, administered concurrently with cisplatin and radiation for locally advanced head and neck cancer. The study was done at a multispecialty hospital in Madurai.

Materials and Methods: Between June 2006 and March 2007, 24 patients with locally advanced head and neck cancers were taken up for the study. Patients with stage III/IV squamous cell carcinoma of the oropharynx, oral cavity, hypopharynx, or larynx were eligible. Patients with very large N3 nodes were not taken up for the study. Treatment was initiated with weekly cisplatin 40 mg/m² and concurrent radiation (60 Gy). Etoricoxib 90 mg OD was given on all days of radiation therapy. Primary endpoints were toxicity and response rates.

Results: Twenty (83%) out of the twenty four patients were males. The mean age at diagnosis was 53.9 years. Oropharyngeal cancers comprised one-third of all the patients. 54% of the patients had Stage IV disease. 2 patients (8%) could not complete the full course of radiation due to Grade III mucositis. Of the evaluable 22 patients, 68% had a complete response. Subset analyses showed a higher rate of complete response in patients with cancers of buccal mucosa and supraglottic larynx. Cancers of anterior tongue had poor response to concurrent chemoradiation with Etoricoxib. There was no treatment related myelosuppression or other adverse effects.

Conclusions: Radiosensitisation with COX2 inhibitors like Etoricoxib is tolerated by majority of our patients with locally advanced squamous cell carcinoma of head and neck undergoing chemoradiation. Two-thirds of patients achieved complete response at the end of therapy. Mucositis is seen only in a minority of our patients. No myelosuppression was seen. Larger sample size and longer follow-up may help us understand the real survival benefits of adding COX2 inhibitors to concurrent chemoradiation in locally advanced head and neck squamous cell carcinomas.

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POSTER

Microsurgical reconstruction of oropharynx after cancer remove by colon-omental flap

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Background: Surgical treatment of malignant locally advanced oropharyngeal tumors is a challenging task in terms of obtaining good long-term oncological results, on the one hand, and providing social rehabilitation of the patients, on the other. We tried to develop a method of surgical rehabilitation after extensive resections that will not compromise oncological outcome and will improve quality of life in the given group of patients.

Methods: Forty one (44) patients with malignant locally advanced oropharyngeal tumors (age 16-60) were operated in P.A. Hertenzen Cancer Research Institute between 1999 and 2007. Tumors were located in oral cavity (15 pts), tongue (8), oropharynx (3), laryngopharynx (8), larynx (2), maxilla (20), mandible (3), soft tissues (3). The predominant histologic type was squamous-cell carcinoma. Patients under analysis fell in two groups – primary tumors (14 pts) and recurrent tumors (21 pts). In the primary tumors group there were 9 patients with T4, 11 patients with T3 and 3 patients with T2 tumors; 14 patients had N1-disease. In the recurrent tumors group relapses occurred after surgical treatment and/or chemoradiotherapy (dosage ranged from 24 to 110 Gy). In all cases patients presented with significant cosmetic and functional defects of the upper digestive and respiratory tracts. We used transverse colon flap for microsurgical reconstruction of oral and pharyngeal mucosa. Nutrient vessels of the transplant were artery and vein of Riolo arch. The intestinal portion of the flap was used to restore mucosal defects and soft tissues' defect was restored with omental portion. In 3 cases after pharyngolaryngectomy was performed trachea-oesophageal shunting with establishing voice prosthesis to rehabilitate the voice. The second step of oropharyngeal reconstruction was carried out in 9 patients.

Results: Necrosis of the flap was found in 4 patients (9%). Good functional qualities of the transplant contributed to the complete healing of salivary fistulas in 6 patients (13.6%). There were no complications associated with abdominal cavity. One patient died in the postoperative period because of massive bleeding from mediastinal vessels. Feeding per os started from the 14th day after surgery. Natural food intake was restored in all patients. All patients were discharged within 3 weeks after surgery. In 3 cases a vocal function was applied after trachea-oesophageal shunting. 58.7% patients have already survived beyond 36 months.

Conclusion: Patients with locally advanced oropharyngeal tumors are treated most effectively using multimodal approach – chemoradiation with extensive surgical resection. The use of colo-omental free flap autotransplantation helps restore vast defects after resections and improves quality of life in such patients.

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POSTER

Bax expression at the invasive front of oral squamous cell carcinomas

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Backgrounds: Apoptosis is a genetically regulated cell death involved in the deletion of cells in normal as well as malignant tissues. Proteins of the Bcl-2 family play a key role in the control of apoptosis and carry out both pro-apoptotic and anti-apoptotic functions. The previous study has reported that bax expression was the risk factor of oral squamous cell carcinoma (OSCC). The present study evaluated the prognostic value of pro-apoptotic protein expression at the invasive front of OSCC, considering the clinicopathological findings.

Materials and Methods: Fifty-six specimens of OSCC were randomly selected. Bax expression was evaluated by immunohistochemistry in formalin fixed, paraffin embedded pretreated specimens at the invasive front of OSCC. Clinicopathological data were gathered, and patient survival was analyzed.

Results: Immunohistochemical staining showed that thirty-seven of the fifty-six specimens (66.1%) examined were positive for Bax. Positive cells tended to be in the outer layer of round tumor nests and cord-like microtumor nests at the invasive front of OSCC. None of the Bcl-2 expression correlated significantly with age, gender, primary sites, T category, and N category, cell differentiation and mode of cancer invasion. Cases showing recurrence of OSCC demonstrated low rates of Bax expression, and there was a significant correlation between Bax expression and local recurrence of OSCC ($p < 0.05$). Furthermore, the five-year survival rate of Bax positive cases was significantly higher than that of Bax negative cases ($p < 0.05$).

Conclusions: Cell differentiation is generally analogous to the normal cells and tissue. Cells deviating from normal might control the function of apoptosis. Therefore, Bax expression at the invasive front of OSCC is a significant indicator of prognosis.

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POSTER

FDG-PET/CT delayed imaging for detection of recurrent head and neck carcinoma after radiotherapy

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Background: Accurate diagnosis of recurrent or persistent head and neck carcinoma after radiotherapy is very important. MRI (magnetic resonance imaging) and CT (computed tomography) have become standard modalities to evaluate head and neck carcinoma. However, sometimes it is difficult to detect recurrent or persistent disease after radiotherapy by means of them because they depend on morphologic information. Lately 2-(¹⁸F)-fluoro-2-deoxy-D-glucose positron emission tomography (FDG-PET) delayed imaging has proven to have greater sensitivity and specificity than MRI or CT to detect head and neck carcinoma. Furthermore integrated FDG-PET/CT is better than FDG-PET alone in localizing lesions anatomically. The purpose of this study was to evaluate the value of FDG-PET/CT for patients with head and neck carcinoma after radiotherapy.

Materials and Methods: Between May 2004 and May 2006, 46 consecutive patients were enrolled in this retrospective study. There were 39 males and 7 females with a median age of 68 years (33–83 years). The patients underwent FDG-PET/CT after radiotherapy.

Results: The median follow-up period was 27 months (1–55 months) from completion of radiotherapy. Locoregional lesions and distant metastases were recognized in 7 and 5 patients respectively according to pathological or clinical diagnosis. There were 2 patients who had both locoregional lesions and distant metastases. Fourteen patients had positive FDG-PET/CT findings. Seven patients of them were regarded as false positive (follow-up periods 7–43 months, median 18 months). Five patients with false positive findings had surgery after radiotherapy and FDG-PET/CT was performed only 7 days after completion of radiotherapy in another patient with false positive finding. The sensitivity, specificity, and accuracy of FDG-PET/CT were 100%, 82%, and 85% respectively.

	PET/CT positive	PET/CT negative	Total
Locoregional lesion (+)	7	0	7
Locoregional lesion (–)	7	32	39
Total	14	32	46

Conclusions: FDG-PET/CT is excellent modality to detect locoregional lesions and distant metastases for patients with head and neck carcinoma after radiotherapy. However, it is necessary to pay attention to false positive findings.

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POSTER

Mucositis scoring system in patients receiving adjuvant chemoradiation for oral malignancies

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Background: Mucositis is a common toxicity observed in patients receiving adjuvant radiotherapy/chemoradiation for oral malignancies. Variations in host and treatment factors might contribute differences in the incidence of the same. At present there is no proper scoring system designed to evaluate the same, we planned to develop a system to predict the patients who are at risk of developing mucositis.

Methods: It is open label, prospective study conducted at Kidwai memorial institute of oncology, Bangalore India. Study population consisted of patients with oral cancer, who underwent radical neck dissection, and required adjuvant radiation/chemoradiotherapy for the local control. All patients were initially planned to receive a single standard chemotherapy regimen (cisplatin 40 mg/m²/week with radiation according to site) and uniform radiotherapy portal. However, in case wherever the chemotherapy was contraindicated, patients received only local radiotherapy. The CTC Version-3 criteria was used to assess mucositis. Primary end point was to

find the population at risk of developing mucositis. Proposed risk factors to predict the development of mucositis are age, performance status, Stage leukocyte count and Albumin levels. ROC (repressor operating curves) was generated to check for the cut off values for the proposed risk factors.

Results: The sensitivity and specificity for various risk factors, their cut off values and the score for the cut off value was shown in Table 1. Based on the scoring system patients can be stratified into 3 definite risk groups. Those with score 0 – very low risk (<25% incidence of mucositis), score 1, 2 – low intermediate risk (25–46% incidence), score 3, 4 – high intermediate risk (47–69% incidence), and score 5 – high risk (>70% incidence).

Table 1. Factors effecting mucositis

Variable	Sensitivity	Specificity	Score 0	Score 1
Age (years)	80%	77%	<50	>50
Albumin (gm/dl)	78%	91%	<2.5	>2.5
Performance Status (WHO)	76%	82%	0, 1	2, 3
Total leucocyte count (/mm ³)	88%	90%	>1500	<1500
Stage (AJCC)	92%	88%	IIA	>IIA
Treatment	76%	72%	RT	CT+RT

Conclusion: Patients with older age, higher stage, low counts, and albumin levels, and receiving concurrent chemo radiation are at more risk of developing mucositis. A simple scoring system developed might predict the development of mucositis with reasonable accuracy.

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POSTER

Mucoepidermoid carcinoma of the parotid: prognostic factors affecting outcome

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Aim: To evaluate prognostic factors affecting the local and loco-regional control rates in patients with mucoepidermoid cancer of the parotid.

Patients and Methods: One hundred & thirty four patients with mucoepidermoid carcinoma of the parotid gland, treated at the Tata Memorial Hospital from 1993 to 2002 were analyzed. The male to female ratio was 1.8:1 (87:47) Age ranged from 2–75 years (median: 35). Twenty-six of these patients had no treatment before presentation to the TMH, 74 had some form of treatment (either excision biopsy, surgery and post-operative radiotherapy or surgery) while 38 patients had presented with a recurrence. In 69 (52%) patients the T stage was not known, while 6 (4%), 22 (16%), 31 (23%) and 6 (4%) patients had T1, T2, T3 and T4 tumors, respectively. Eighteen patients (13%) had clinically palpable nodes at presentation. 35 (26%) patients had surgery alone, 27 (20%) received only radiotherapy, surgery and post-operative radiotherapy in 43 (32%) patients. Forty seven (35%) patients had low grade tumors, 54 (40%) intermediate grade, 16 (12%) had high grade tumors while in 17 (13%) patients the grade was not known. In 35 patients adjacent structures like the skin, muscle, soft tissue or fat was involved while in 15 patients more than one of these structures was involved. Only 23 patients had positive cut margins, while in 3 the margins were negative but close. Perineural invasion was present in only 8 patients and facial nerve was involved pathologically in 4 patients. 70 (52%) of the 134 patients received adjuvant radiotherapy. The dose of radiotherapy ranged from 8 Gy to 62.5 Gy in conventional fractionation (median: 50 Gy).

Results: After a median follow-up of 34.29 months (range: 1–143 months), the disease free survival for the entire group was 57.1%. Both clinical (p = 0.04) and pathological (0.00) N-stage, grade (p = 0.02), surgical margin status (p = 0.00) and perineural invasion (p = 0.01) were significant factors influencing DFS. In high grade tumors use of adjuvant radiotherapy resulted in better DFS (p = 0.001). RT dose more than 56 Gy resulted in superior local control (p = 0.57).

Conclusion: N-stage, grade, surgical margin status, perineural invasion and use of adjuvant radiotherapy are important factors affecting outcome.