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DCF NEWSLETTER

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Vol.12 No.128 ISO 9001:2000 AND ISO 14001:2004 CERTIFIED JUNE 2009

DHARAMSHILA 19 years Adding quality to life

Dear Friends,

We all know that many cancers are aggressive and therefore needs aggressive management. We believe in treating patients aggressively but as per International / National treatment guidelines and evidence based medicine.

To be aggressive or not to be aggressive is a big dilemma that medical professionals are bound to have, while handling cancer patients. For us, each and every patient is a big challenge, especially when such patient has been told that nothing can be done, by premier institutions of the country. To go ahead and remove the misery of such patients and bring smiles on their faces is something that is very deeply ingrained in all of us at Dharamshila Hospital. For us every opportunity to prevent, detect, treat, cure and add quality to life is God sent and should not be missed.

When you believe in your dreams and in yourself, everything is possible. It is this self belief that determines success in any endeavour. Our belief that cancer battle has to be won at any cost has enabled us to develop the facilities to address the needs of patients not only from India but also from other countries to offer holistic healthcare under one roof.

Success stories of our two patients, one from Afghanistan with Carotid Body Tumour and the second one with carcinoma larynx are in the next columns. This proves that the skills, expertise, experience and commitment of our teams, to not only accept challenges but also to deliver high quality of care.

It is very heartening to see our data which shows 50 – 60% of our new patients have been referred by the old satisfied patients / their family members / friends / neighbours and rest by all of you.

We are sure that your valuable referrals and the faith in our services will go a long way in fighting and winning the battle against cancer.

Thanking you

Dr. S. Khanna
Executive Director

CAROTID BODY TUMOURS

Carotid body tumours are rare tumours of the carotid receptors which require careful evaluation and surgery for successful management. We report the case of a 52 years old lady from Kabul, Afghanistan who came to Dharamshila Hospital And Research Centre with a swelling on the right side of the neck for a long time and had recently developed dysphagia and difficulty in breathing. On clinical examination there was an ill defined pulsatile swelling on the upper part of right lateral neck. Flexible direct laryngoscopy revealed external compression on the right lateral pharyngeal wall and pushing of the larynx to left with compromised laryngeal inlet. CECT scan study along with CT angiogram of the neck revealed a large heterogenous mass encasing the common carotid artery (CCA), internal carotid artery (ICA) and external carotid artery (ECA). All branches of the external carotid artery provided the feeding vessels of the tumor making it very vascular. Medially the tumor extended to the parapharyngeal space and superiorly to the base of skull. After a detailed workup diagnosis of a chemodectoma / paraganglioma was made. Because of its location and size it was called a Shamblin Type III carotid body tumour **(Fig.I)** involving CCA, ICA, ECA and getting blood supply from all the branches from ECA and adventitial vessel of ICA. **(Fig. III & IV).**

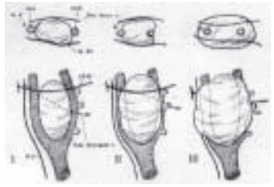

Fig. I Shamblin Classification

Fig. II Location and innervation of arterial chemo-receptors

For surgical resection, tumor was approached through the lateral neck, the common carotid artery was dissected at the root of neck and secured by vascular tape. Tumour dissection was done meticulously in the subadventitial plane of the vessel with the help of a bipolar cautery. During the dissection, there is a risk of bradycardia and hypotension

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developing while the tumour is being manipulated. It therefore, is a test of the skills of the anaesthestist who should be well informed in advance about the diagnosis. After the dissection around the vessels the tumour was dissected out of the parapharyngeal space and from the skull base. At the time of removal it was 10 cm in maximum diameter **(Fig V).**

Some oncosurgeons recommend the use of preoperative embolization to decrease the vascularity of tumour, but like many other oncosurgeons, we prefer not to do so, as it is often associated with a severe inflammatory reaction in the sub- adventitial plane of the vessels making dissection difficult. When surgery is meticulously and carefully performed there is no requirement of blood transfusion. Our patient recovered uneventfully and was discharged on the third postoperative day.

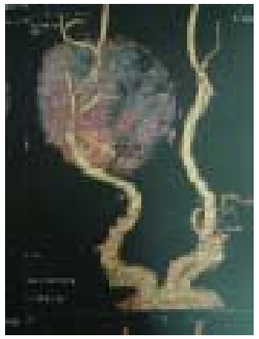

Fig. III CT Angiogram showing encasing of CCA, ICA and ECA

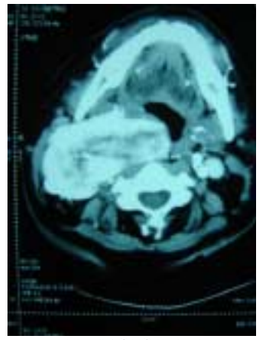

Fig. IV CECT Neck

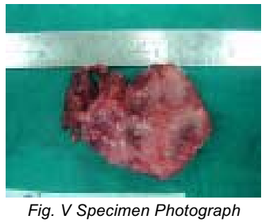

Fig. V Specimen Photograph

Disscussion

The Carotid body is located on the posteriomedial wall of the carotid vessel at its bifurcation and is attached by “Mayer’s ligament” through which the feeding vessels run(primarily from the external carotid artery). The normal carotid body measures 3-5 mm in diameter but is often larger in people living at higher altitudes. Afferent innervation is provided through the glossopharyngeal nerve. The histologic appearance of the carotid body is identical to other paraganglia and includes two types of cells. Type I (chief) cells which are APUD type cells and Type II (sustentacular) cells which are elongated, spindle shaped cells that closely resemble Schwann cells.

The function of the carotid body is related to its role in the autonomic control of the respiratory and cardiovascular systems. It is responsible for detecting changes in the composition of arterial blood. Hypercapnia, hypoxia, or decreasing pH stimulate Type I cells to initiate an autonomic reflex which leads to increased respiratory rate and depth, sympathetic nervous system activation(increased heart rate, systemic vascular tone and blood pressure), and cerebral cortical activity.

Grossly the carotid body paraganglioma is dark, tan to purple in color and is usually fairly well circumscribed although there may be only a very thin fibrous capsule. They tend to splay the carotid bifurcation as they enlarge and can extend along the internal carotid to the base of skull. Histologically, the tumour cells are arranged in an alveolar pattern with formation of Zellaballen or cell nests. Sometimes there are areas with cluster of spindle-shaped cells (“sarcomatoid foci”) and highly vascular areas that may resemble an angioma. Nuclear pleomorphism and cellular hyperchromasia are common and are not be considered indicative of malignancy. In our case the histology was that of a classical paraganglioma with some nuclear pleomorphism. Immunohistochemistry markers done on the tumour sections showed that the tumour cells expressed Neuron Specific Enolase (NSE), chemogranin and synaptophysin. They did not express cytokeratin. The sustentacular cells of the tumour expressed S-100. Thus confirming the diagnosis of paraganglioma.

The treatment of choice for most carotid body paragangliomas is surgical excision. However, because of their location in close approximation to important vessels and nerves, there is a risk of morbidity (mainly cranial nerve X-XII deficits and vascular injuries) and mortality which is reported to be 3-9% (Kyriakos,1987: Maves,1993). Tumor size is important for evaluating risk of complications and morbidity. Tumours greater than 5 cm in diameter have a markedly higher incidence of complications (67 per cent) compared with those less than 5 cms where the rate of complications is 15 percent.

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M.Ch (Oncosurgery), Gold Medalist
Consultant – Surgical Oncologist

Dr. Noopur Gupta
MBBS, DNB (Pathology)
Senior Resident

VOICE CONSERVATION SURGERY FOR CARCINOMA LARYNX

Laryngeal cancer continues to kill nearly 4,000 people per year in the United States, despite stricter bans on smoking, increased public awareness, and improved treatment modalities. In India head and neck cancer is among the most common cancers seen and laryngeal cancer constitutes a large proportion of these. The ultimate goal of every clinician treating laryngeal cancer is total removal of the tumour with maintenance of function i.e. voice and swallowing.Most early glottic and supraglottic cancers can easily be treated without affecting speech. The options for treatment in early stage larynx cancer are conservative voice preserving surgery or radiation therapy.

Advances in partial laryngeal surgery, which includes near-total, subtotal, extended partial laryngectomy and endoscopic resection of tumour, can remove the cancerous tissue without overly aggressive resection of the larynx and pharynx, thereby maintaining voice.This concept of removing the cancerous tissue while retaining functionality of the phonatory mechanism is the driving force behind conservational laryngeal surgery. The advantage of surgery over radiotherapy is that many of the patients of head and neck cancers are at risk to develop a second primary in the head and neck area. So radiotherapy can be kept as a reserve for treating any new malignancies that may arise in a given patient. The other advantage is patient will be spared some of the side effects of radiotherapy like mucositis, xerostomia etc., which can be very troublesome and effect the quality of life.

The case is a 60 year old man who came to Dharamshila Hospital and Research Centre with change in voice and throat irritation of 3 months duration. Flexible Direct Laryngoscopy revealed a growth in the epiglottis measuring 3x2 cms. The vallecula was free of tumour. CT scan Neck revealed a mass in the epiglottis with no extension of the growth into the preepiglottic space .Biopsy done was diagnosed at a moderately differentiated squamous cell carcinoma. Chest X ray was normal. His pulmonary function tests were normal which

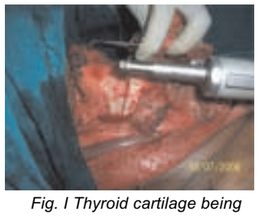

Fig. I Thyroid cartilage being divided

Fig. II Specimen showing growth in the epiglottis with hyoid and thyroid cartilage

is a perquisite for voice conserving surgery. Both option of surgery and radiotherapy were given to the patient and the advantages and disadvantages of each mode of therapy were explained to him in detail. The patient chose to have surgery provided his voice could be preserved. Voice preserving Supraglottic laryngectomy was planned. His tumor was removed with negative margins which were confirmed on frozen sections. Patient’s hyoid bone, preepiglottis space, epiglottis, upper half of thyroid cartilage (Fig. I) were excised as a part of the supraglottic laryngectomy and a bilateral neck dissection was performed.The pharyngeal defect was reconstructed using a base of tongue flap. During this procedure care

Fig. III Postoperative patient without tracheostormy

was taken to preserve the superior laryngeal nerve. Histology revealed a moderately differentiated squamous cell carcinoma 3.5 x 3cm (Fig. II), all margins were free of tumour and dissected lymph nodes were negative. Patient was decannulated after 15 days On the last follow up visit (11 months after surgery) he has no locoregional evidence of disease and has a normal voice and speech. Therefore, we feel that conservative laryngeal surgery is a valid option for early and advanced laryngeal cancers with good oncological outcome provided surgeons with adequate expertise are available, like they are at Dharamshila Hospital.

Dr. Mudit Agarwal
MS, MRCS(UK), MCh., UICC Fellow,
Consultant Surgical Oncologist

DCH UPDATES

CME PROGRAMMES

S.No.	Date	Place	Topic	Speakers
1.	30.04.09	IMA, Muzaffarnagar	• Overview of Surgical Oncology • Recent advantages in Radiation Oncology	Dr. Mudit Agrawal Dr. Manish Pandey
2.	02.05.09	IMA, Ghaziabad	• Recent trends in management of breast cancer • Role of Surgical oncology in the management of breast cancer	Dr. Meenu Walia Dr. Niranjak Naik
3.	06.06.09	Ganesh Hopital, Ghaziabad	• Chemotherapy and advanced ovarian cancer • Overview of Gynae Oncology	Dr. Meenu Walia Dr. Rama Joshi

GUEST LECTURE

22.05.2009	Guest Lecture	Dr. Veronique Dinand Senior Research Officer Pediatric Hematology and Oncology Unit Sir Ganga Ram Hospital, New Delhi