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### Case report

## Transient Ischaemic attack a diagnostic Dilemma – Carotid body tumour - A case report.

Ambikavathy.M<sup>a</sup>, Kumar. S<sup>b</sup>, A. Bhaskaran<sup>a</sup>, M.L. Harendra kumar <sup>c</sup>, Kishore kumar B.N<sup>d</sup>

<sup>a</sup>\*Dept. of Surgery, Medicine<sup>b</sup>, Pathology<sup>c</sup>, Radiology<sup>d</sup>, Sri Devaraj Urs Medical College and Research Centre Kolar, Karnataka, India.

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### ABSTRACT

Carotid tumour is a painless swelling of the neck which may be an incidental finding. Carotid body tumour is usually asymptomatic and can make clinical diagnosis difficult. We report a case of a female patient aged 52 years who presented with transient ischaemic attack /2 episodes of unconsciousness secondary to left carotid body tumour. She was investigated and successfully underwent complete resection of the tumour. She is symptom free at follow up till date.

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### 1. Introduction

Carotid body tumour are painless, swelling noted in the lateral aspect of the neck. Paraganglioma is a rare tumour of the head and neck which arises from the neural crest cells. They are usually slow growing and benign and rarely metastasise [1],[2],[3]. Although carotid body tumours are usually asymptomatic, symptoms such as painless swelling with gradual increase in size, head ache, difficulty in swallowing and hearing may be seen [4],[5]. But patients presenting with transient ischaemic attack secondary to carotid body tumour is rare and cases reported in literature are few [1]. We report a case of 52 yr old female patient who presented with transient ischaemic attack and it was diagnosed to be due to carotid body tumour as the patient is symptom free following surgery on follow up till date.

### 2. Case Illustration:

An apparently normal patient was brought to medical outpatient by her son who gave history of his mother becoming suddenly unconscious twice in an interval of 2 hours, following a domestic quarrel at home. She was unconscious for a few seconds and was alright later on. There was no history of head injury, vomiting, seizures. She was not a diabetic or hypertensive. On further probing the patient gave history of giddiness on movement of head/ neck, headache, discomfort on swallowing, pain over left half of face.

On clinical examination her vitals were stable. A swelling of 3x2cms was palpable over left lateral aspect of neck. It was non tender, firm with transverse mobility, transmitted pulsations was felt, no bruit heard. Systemic examination was normal. A clinical diagnosis of transient ischaemic attack due to ? SOL/ Carotid body tumour was thought of.

The patient was investigated. Plain CT brain was normal there was no space occupying lesion, no infarct. Ultra sound neck reported a heterogenous lesion measuring 3x2.8x2cms seen in the left upper neck at level of bifurcation of carotids with internal vascularity-carotid body tumour. CECT neck reported a well defined mass lesion 3.4X2.2X4cms at the bifurcation of left common carotid artery with intense contrast enhancement-carotid body tumour (fig 1). Thyroid profile was within normal range. FNAC was inconclusive. USG Abdomen was normal so also her routine blood investigations. Colour Doppler study of carotids reported pressure /stenosis of left internal carotid due to the carotid body tumour. (Fig. 2,3,4)

The patient was confirmed with a diagnosis of left carotid body tumour as the cause for transient ischaemic attack secondary to pressure effect. The patients attendants were counselled for surgery and with written informed consent for the same the surgeons opinion was taken.

The patient successfully underwent complete resection of the tumour under GA. The intraoperative findings were the shambling type -2 carotid body tumour seen at the left common carotid

\* Corresponding Author : Dr. Ambikavathy. M  
Asst. Prof. Dept of Gen Surgery,  
SDUMC&RC, KOLAR.  
E-Mail: [ambikaashri67@live.com](mailto:ambikaashri67@live.com)  
Mob: 9980337428



bifurcation which was completely resected after the feeding vessels were addressed (fig-5a,5b). Pressure effect over the internal carotid artery was seen causing narrowing of the vessel. There was no injury to nerves/ vessels intraoperatively.

**Histopathology:** B-2284-11 reported : 6,7,8 Gross specimen consists of nodular soft tissue mass measuring 4x3x1.5cms. cut section grey white to grey brown separated by thin fibrous septa with foci of cystic area. Microscopy: section studied shows thin capsulated lesion comprising of tumour cells which are round to polygonal with vesicular nucleus, at places chromatin is clumped with abundant eosinophilic to vacuolated clear cytoplasm arranged in nests and lobules separated by thin septa giving Zellballen appearance. No mitosis or necrosis - features are consistent with paraganglioma.

The patient had deviation of tongue to the left post operatively and was treated symptomatically there were no other neuro deficits. She was discharged on 10th post op day. She is symptom free on regular follow up till date.

### 3. Discussion:

The carotid body tumour is a vascular reddish brown structure located in the adventitia posteromedial to bifurcation of common carotid artery [5],[6],[7]. Carotid Body Tumour is usually seen in the fourth to fifth decade of life with an increased incidence in high altitude dwellers and females [5]. Most patients receive medical treatment for accidental finding of the neck swelling as they are asymptomatic and rarely present with transient ischaemic attack. Carotid sinus syndrome with hypotension, bradycardia and unconsciousness can occur spontaneously or secondary to head movement [5] as seen in our patient. The absence of further episodes of unconsciousness on follow up suggests/explains the pressure effect of the carotid body tumour as a direct cause for low perfusion state leading to TIA.

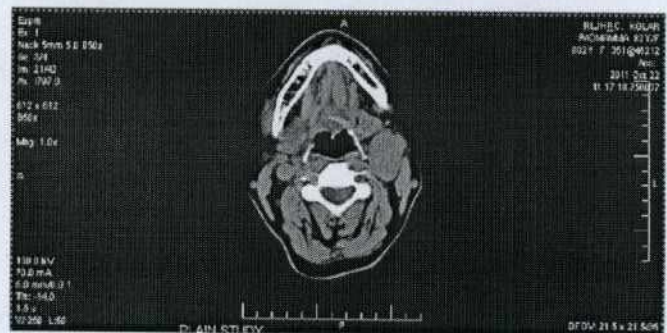
Most of the lesions are benign but malignant lesions are seen in 6-12% of cases which mandates long term follow up. Patients may present with various symptoms such as vertigo, facial pain, tinnitus, dysphagia, change in voice, painless neck swelling with gradual increase in size, dizziness etc [7],[8].

Cervical CT, Colour Doppler sonography, and DSA are gold standard investigations for carotid body tumour. The size of the tumour is important for clinical as well as for surgical management [6].

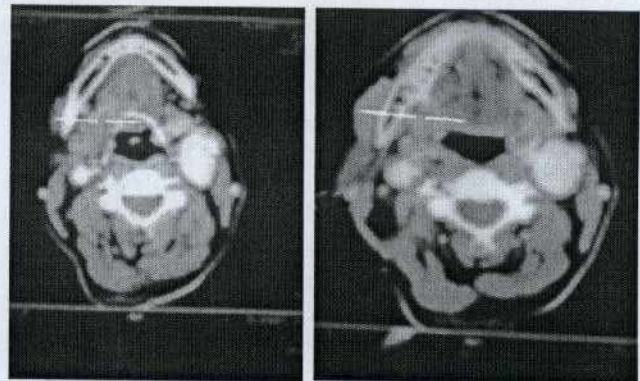
Surgical resection is the optimal choice for carotid body tumours. A adequate pre operative work up of the patient and the functional and vascular nature of the tumour should be confirmed to avoid complications intra and post operatively [9],[10].

The differential diagnosis should include solitary lateral aberrant thyroid, neurofibromas, mixed parotid tumours, brachial cysts.

**Fig- 1A: CT Showing Left Carotid Body Tumour**



**Fig- 1: Cervical contrast enhanced CT showing left carotid body tumour**



**FIG: 2 MRA-TOF image showing splaying of the internal carotid and external carotid arteries due to carotid body tumour.**

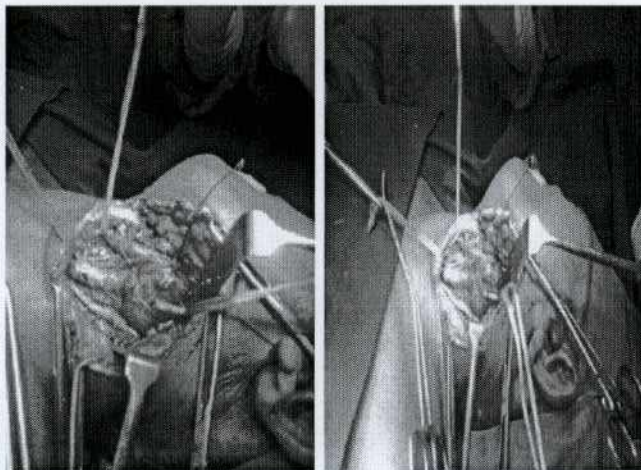




**Fig3 :-colour Doppler image showing carotid body tumour displacing the internal carotid vessels laterally which courses circumferentially around the tumour.**



**FIG4 :- Doppler study of the carotid showing increase flow velocity of the internal carotid artery suggestive of extra luminal compression by carotid body tumour.**

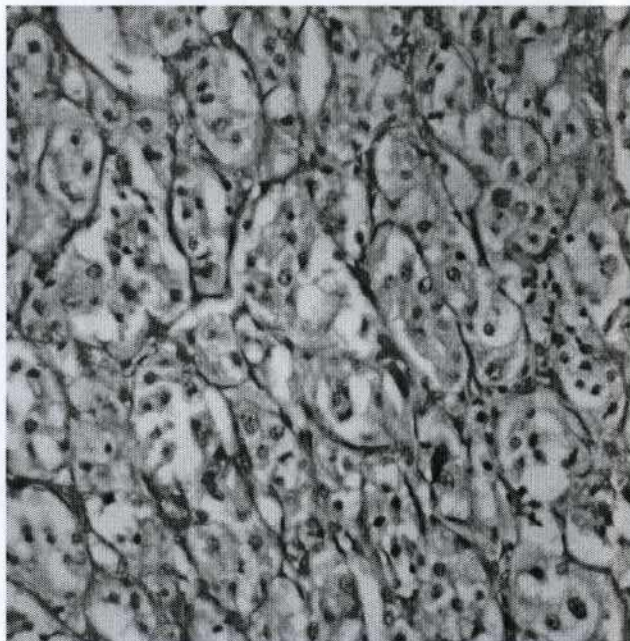
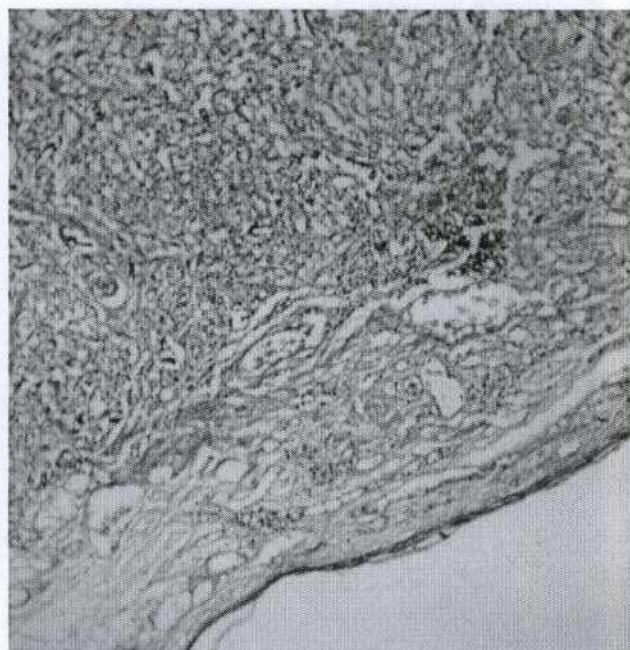


**Fig-5a & 5b : Intra operative picture showing left carotid tumour in the bifurcation of left common carotid artery (shamblin type ii)**

**Fig 6: Resected Specimen of Carotid Body Tumour**



**Fig-7 & 8 : Showing histopathology of the corotid body tumour.**



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