

Carotid body tumor, a case report

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A carotid body tumor (chemodectoma or carotid body paraganglioma) is a highly vascular rare neck tumor arising from the para ganglion cells of the carotid body, located at the carotid bifurcation splaying ICA and ECA away from each other. A patient of 61 years old male with history of gradual increasing neck swelling, physical examination revealed pulsatile painless Lt side neck mass neck CT scan was done in at

radiology department and revealed there is a large soft tissue density mass of approximately 41 x 35 x 28 mm at the bifurcation of the Lt CCA, splaying ICA, ECA away from each other (Figure D) and encasing the CCA (Figure C). The Lt internal jugular vein is compressed laterally by the mass effect. In post contrast films the mass exhibits rapid homogenous enhancement.



Figure A

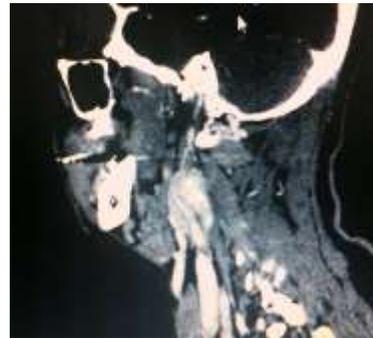


Figure B



Figure C

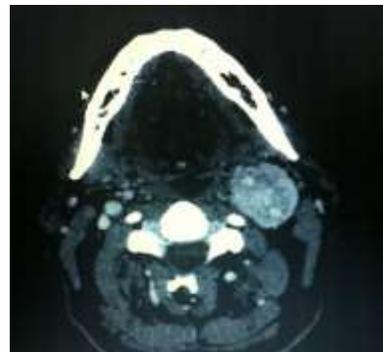


Figure D

Coronal (A), sagittal (B) and axial (C, D) CT neck images showing Lt sided carotid body tumor with splaying of ICA and ECA. Diagnosis of carotid body tumor was made; the patient underwent a surgical resection.

The histological result confirmed the diagnosis of carotid body tumor.

The carotid body tumor derived from para ganglion cells of the carotid body, sporadic form is the common one and about 5% are

bilateral, the 2nd rare form with a pattern of autosomal dominant inheritance and about 32% of the cases are bilateral. A written informed consent was obtained from the patient. Presentation of painless pulsatile firm neck mass below the angle of the jaw, medially and laterally mobile but vertically fixed. Located within outside adventitial layer of CCA at level of carotid bifurcation, commonly along posteromedial wall. Extended inferiorly to lower cranial nerves, pharynx; superiorly to skull base and intracranial cavity. Carotid body tumors are located at the carotid bifurcation with characteristic splaying of the ICA and ECA, described as the lyre sign. In all modalities the dense vascularity of these tumors is manifested as prominent contrast enhancement. Contrast enhanced CT scan is excellent at depicting these lesions. Typical appearances are: (soft tissue density on non-contrast CT (similar to muscle), bright and rapid (faster than schwannoma) enhancement and splaying of the ICA and ECA. On MRI: T1W images: Iso to hypointense compared to muscle. Salt and pepper appearance when larger, representing

a combination of punctate regions of haemorrhage or slow flow (salt) and flow voids (pepper) and intense enhancement following gadolinium T2W images: Hyper intense compared to muscle and salt and pepper appearance also seen on T2. Surgical excision is the treatment of choice. The larger tumor the higher risk of operative complications. In patients for whom the risks of complications preclude surgery, radiotherapy may be considered. Differential diagnosis: Vagal schwannoma: tends to displace both vessels together rather than splaying them, Vagal neurofibroma: tends to displace both vessels together rather than splaying them, lymph node mass: may look similar if hypervascular, Glomus vagale tumour: same pathology but located more rostrally, carotid bulb ectasia.

In conclusion: carotid body tumor, (chemodectoma or carotid body paraganglioma) is a highly vascular rare neck tumor arising from the para ganglion cells at the carotid bifurcation presented with painless pulsatile firm neck mass, the key imaging finding is splaying of the ICA and ECA, surgical excision is the treatment of choice.

References

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