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Case Report

Cervical Vagal Swannoma: A Case Report

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Abstract

Cervical vagal schwannomas are rare, slow growing tumours usually occur in patients between thirty and fifty years of age with no sex related predisposition. They are usually asymptomatic benign lesion and complete surgical resection with preservation of neural pathway, whenever possible is the treatment of choice.

Key words: *Vagus nerve, benign tumour, schwannomas*

Introduction

Cervical vagal schwannomas are rare, slow growing tumours usually reported to occur in patients between thirty and fifty years of age with no sex related predisposition[2,5,8-11].

They are usually asymptomatic benign lesion and complete surgical resection with preservation of neural pathway, whenever possible is the treatment of choice[3,4].

Imaging plays a central role in diagnosing vagal schwannomas.

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Case report

A fifty years old female, of lower socio-economic status, house wife came to our institute with complaints of a palpable, progressive right sided neck swelling for last nine years.

There was no history of dysphagia, dyspnoea, haemoptysis, change of voice, fever or night sweat.

There was no other specific history in the past.

Physical examination

revealed a firm, smooth surfaced mass in right side of neck, deep to the sternocleido mastoid muscle in the upper and mid cervical region, measuring 7cm× 5cm, horizontally but restricted in vertical direction.

The concerned mass was nontender, nonpulsatile, without any thrill.

The Right carotid artery was displaced anteriorly.

On auscultation no bruit was heard.

In the oral cavity a smooth bulging was seen over right lateral and part of posterior pharyngeal wall pushing right tonsil anteriorly.

On laryngoscopy with 70 degree endoscope the bulging was extending downwards upto laryngeal inlet, and the right vocal cord was

fixed in cadaveric position which was partially compensated by the left vocal cord.

Ultrsonography

of neck with Doppler study showed a hypoechoic, encapsulated mass with cystic component of 6cm× 4 cm size in the region of posterolateral aspect of the right common carotid artery, between the right common carotid artery and the right internal jugular vein.

Serosa of the right common carotid artery was involved by the mass.

Colour flow was normal on Doppler study.

USG guided FNAC was taken from the mass and showed bundles of spindle cells embedded in collagen matrix.

There was no significant nuclear atypia and an impression of benign nerve cell tumour either schwannoma or paraganglioma was made.

Contrast enhanced CT scan and MRI

neck revealed a large mass in the right carotid space between the right common carotid artery and theright internal jugular vein with extension and displacement of surroundings structures, suggesting vagal paraganglioma or vagal schwannoma as a close possibility [Fig-1].

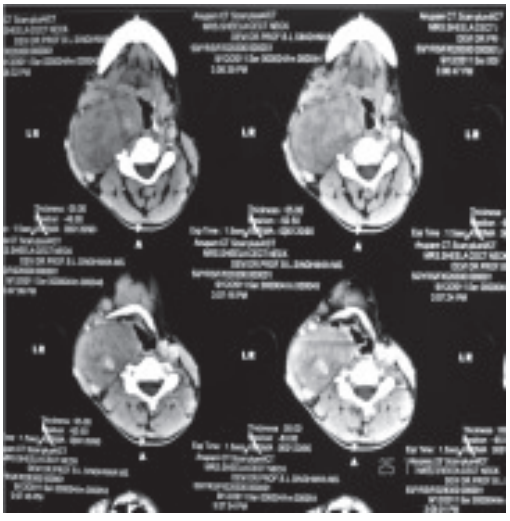

Fig.-1: *Contrast enhanced CT scan of neck*

The patient then underwent surgery with complete excision of mass.

Cervical incision was given along the natural skin crease anterior to the sternocleido-mastoid muscle and the dissection proceeded beneath the muscle.

A yellowish white ovoid shaped mass was found measuring 6cm×4cm between the right common carotid artery and the right internal jugular vein which was shifted outwards.

Both superior and inferior end of the mass appeared in continuity with the nerve.

Since an adequate dissection plane could not be achieved between the mass and the right vagus nerve it was impossible to dissect the splayed nerve trunk off the tumour.

The tumour was resected " en block".

On cutting the specimen whitish fleshy tissue was seen without any cavitation. [Fig-2].

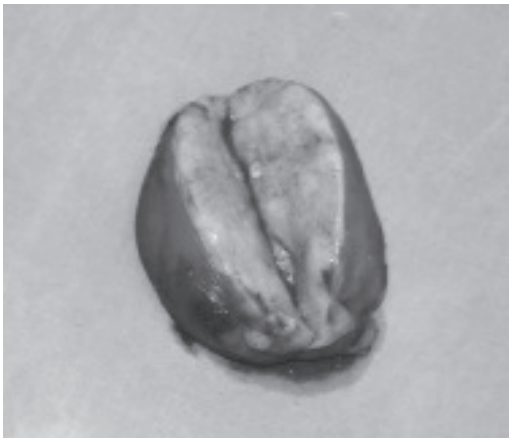

Fig-2: *Cut section of the specimen*

Histopathological examination(under 40× magnification) showed encapsulated spindle cell tumour with frequent Verocay bodies alternation with Antoni B type areas.[Fig-3]

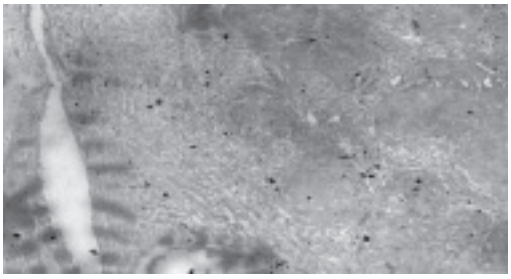

Fig-3: *microscopic appearence*

Discussion

Schwannomas are rare peripheral nerve tumours; about one third of these cases occur in the head and neck region[1].

Clinically, they present as asymptomatic slow-growing lateral neck masses that can be palpated along the medial border of the sternocleidomastoid muscle.

Pre-operative diagnosis of schwannoma is difficult because many vagal schwannomas do not present with neurological deficits.

Several differential diagnoses for vagal paraganglioma of the neck may be considered, like branchial cleft cyst, malignant lymphoma, metastatic cervical lymphadenopathy[2].

Our case is reported because its rarity and its presentation with classical symptoms of vagal schwannoma.

When symptoms are present, hoarseness is the most common.

Occasionally, a paroxysmal cough may be produced on palpating the mass. This is a clinical sign, unique to vagal schwannoma.

Presence of this sign, associated with a mass located along the medial border of the sternocleidomastoid muscle, should make clinicians suspicious of vagal nerve sheath tumours[1,3–5].

The usefulness of FNAC is still controversial.

The majority of authors do not recommend open or needle biopsy for these masses[2].

In our case, a FNAC was performed which suggested the possibility of vagal schwannoma or parganglioma.

There is general agreement concerning the great value of MRI in the pre-operative work-up as it is helpful in diagnosis and in evaluating the extent and the relationship of the tumour with the jugular vein and the carotid artery.

On MRI vagal schwannoma frequently appears as a well-circumscribed mass lying between the internal jugular vein and the carotid artery.

As reported by Furukawa et al.[6,7], MRI findings are also useful to differentiate pre-operatively between schwannoma of the vagus nerve and schwannoma of the cervical sympathetic chain.

The vagal schwannomas, in fact, displace the internal jugular vein laterally and the carotid artery medially, whereas schwannomas from the cervical sympathetic chain displace both the carotid artery and the jugular vein outwards without separating them[6–10].

Treatment of vagal nerve tumours is complete surgical excision.

At surgery, these tumours appear as yellowish-white, well-circumscribed masses.

Dissection of the tumour from the vagus with preservation of the neural pathway should be the primary aim of surgical treatment for these tumours.

Incomplete treatment, such as open biopsy, should be avoided, since it makes definitive excision of the tumour much more difficult.

If it is impossible to find an adequate plane and is technically difficult to preserve the integrity of the nerve trunk, the involved segment may be resected and an end-to-end anastomosis performed using microsurgical techniques[3].

In our case as there was complete vocal cord paralysis preoperatively, the nerve anastomosis was not attempted.

The reported incidence of pre-operative vocal cord paralysis is about 12%.

Therefore, pre-operative assessment of vocal cord mobility should be strongly recommended.

As the nerve sheath tumour of neck is very rare, pre-operative suspicion is very important, and the patient, and the patient's family, should be informed about the possible post-operative neurological complications which is reported in 85% of cases in literature [3, 11];

In the presence of post-operative vocal cord palsy, an aggressive voice therapy, for vocal cord compensation, should be started soon after surgery.

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