Stridor Caused by a Rare Laryngeal Tumour
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ABSTRACT
This report describes stridor caused by a rare laryngeal tumour. The patient had presented to ENT with a midline neck-mass and stridor of acute onset and diagnosed radiologically as a mass in the right lobe of thyroid gland in continuity with enhancing polypoidal mass in trachea at the same level. Total thyroidectomy along with the resection of the mass and tracheal ring was performed, trachea being anastomosed primarily. Histopathology reported it as a paraganglioma of the larynx. The patient has been followed-up for 5 years with no clinical or radiological recurrence of the tumour.

Key words: Stridor. Paraganglioma. Larynx.

INTRODUCTION
A paraganglioma is generally a benign and slow growing tumour arising from a widely distributed paraganglionic tissues thought to be originated from the embryonic neural crest. In larynx, they arise from laryngeal paraganglia which have paired structures on the internal branch of the superior laryngeal nerve and on the anterior third of the false cords. The second pair lies on terminal branch of posterior branch of the recurrent laryngeal nerve. Mostly, tumours arise from the supraglottic paraganglia and less frequently from the inferior one. The patients with laryngeal paraganglia have hoarseness of voice, stridor, haemoptysis, thyroid mass and neck pain. Males are affected slightly more than females: the mean age at presentation is 50-70 years.

CT scan and MRI are the usually employed diagnostic tools, while angiography gives information regarding the vascularity and feeding vessels. Histopathology and immunohistochemical analysis for S-100 of the biopsy confirm the diagnosis of paraganglia.

This report describes the occurrence of this tumour in a younger age group causing acute stridor.

CASE REPORT
A male patient of age 37 years presented to the emergency department with stridor and breathlessness for the last couple of days. This patient had a mass anteriorly at the middle of the neck, which moved with swallowing. No other relevant significant history was documented. On examination, a well-defined, 2x2 cm, globular, soft, non-tender, non-pulsatile mass was seen in the anterior lower neck.

None of the lymph nodes were palpable in the neck. Indirect laryngoscopy revealed a well-defined polypoidal mass, reddish in colour in subglottic region. The vocal cords movements were found normal. Neck X-ray was done in the emergency room that revealed a well-defined rounded soft tissue density mass in subglottic and upper trachea (Figure 1).

The patient was planned for admission and emergency tracheostomy was performed. It was followed by panendoscopy and multiple punch biopsies were taken and sent for histopathology. Ultrasonography of the neck revealed a solid mass in the right lobe of thyroid gland extending into the trachea. Thyroid scan reported reduced activity in the mass. The result of fine needle aspiration was inconclusive. CT scan done with contrast showed a mass of 2x2 cm in the right lobe of thyroid in continuity with an enhancing polypoidal mass in trachea at the same level (Figure 2). MRI revealed a polypoidal mass just below the cricoid cartilage, protruding into the trachea and a continuous mass with the same enhancement in the right lobe of thyroid gland (Figure 3).

Surgery was performed by a team of general, thoracic and ENT surgeons. To begin with, the general surgeon...
performed total thyroidectomy via the tracheostomy incision with the attached portion of the mass en-block with the trachea. The thoracic surgeons excised the involved tracheal ring along with the mass and preserved the posterior portion of the same tracheal ring. End-to-end anastomosis of the trachea was conducted by ENT and thoracic surgeons. The endotracheal tube was extubated at the end of the surgery. Histopathologist reported the mass as: paraganglioma of larynx with unremarkable involvement of thyroid gland. Immunohistological study was positive for S-100. The patient has been followed for 5 years with no clinical or radiological recurrence of the tumour.

DISCUSSION

Laryngeal paraganglioma is a rare entity with only 75 cases in the literature of otorhinolaryngology.\textsuperscript{1} Patients with laryngeal paraganglioma often present with hoarseness of voice. The increasing size of the lesion increases the frequency of dyspnoea, globus, dysphagia and stridor.\textsuperscript{2} However, in this case, the patient presented with stridor and a mass in the anterior of the neck which moved with swallowing. No clinical symptoms of hoarseness of voice was observed. It is quite likely that this clinical picture could be easily misunderstood as goiter with retrosternal extension/pressure symptoms leading to stridor. The case was managed initially as such, so emergency tracheostomy was performed while work-up for the mass was done later on. CT and MRI revealed a different condition requiring multi-disciplinary approach for management. Any visible mass in front of larynx may not be a thyroid tumour, it may be a laryngeal tumour, needing extensive investigations i.e.; CT, MRI and angiography to rule out vascular masses prior to biopsy. It was fortunate that the biopsy done in the absence of these investigation did not lead to any catastrophic consequence. In the absence of such investigation, even an emergency ultrasound scan of neck, particularly with Doppler technique, can point to its origin and vascular nature.

Appropriate pre-operative workup can alleviate the need for biopsy, thus avoiding an additional operation and the complications of instrumenting a vascular lesion. It has recently been suggested that this workup should consist of a magnetic resonance image (MRI) and \textsuperscript{111} indium pentetreotide imaging.\textsuperscript{3} With a pre-operative diagnosis of a laryngeal paraganglioma, an external resection can be carried out through lateral thyrotomy without a tracheostomy.\textsuperscript{2}

Some investigators are of the opinion that paraganglioma of the larynx are almost exclusively benign and should be treated with local conservative resections.\textsuperscript{4, 8-10}

The patient in this case was operated for total thyroidectomy by general surgeon and en-block tracheal resection with primary repair was done by ENT and thoracic surgeons. Regular follow-up was done for 5 years without showing any recurrence.

Laryngeal paraganglioma is a rare tumour. It is difficult in the initial diagnosis by clinical examination and due to possibly high vascularity of the tumour, a definite diagnosis must be sought prior to any surgical intervention.

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REFERENCES


