Large posterior mediastinal schwannoma in a 45-year-old woman

Sir,

The posterior mediastinum is a space within the thoracic cavity bounded by the posterior pericardium and extending posteriorly to the chest wall and laterally to the costovertebral sulci. A majority of posterior mediastinal masses are neurogenic in origin with schwannomas constituting 75% of benign nerve sheath tumors. We present the case of a large benign posterior mediastinal mass presenting with compressive symptoms in our hospital.

A 45-year-old woman presented with a 4-month history of left-sided chest pain, progressively worsening dyspnea and complicated by hoarseness of voice and inability to sweat on the left side of her face. A preemployment plain chest radiograph done 20 years ago was said to have shown a small left-sided opacity, but by then, she was asymptomatic and nothing therapeutic was done.

Examination showed a dyspneic woman with a respiratory rate of 36 cycles/min, left-sided ptosis, and miosis. She had tracheal deviation to the right, reduced expansion on the left side, and absent air entry in the left upper and middle lung zones.

A chest radiograph revealed a large rounded radiopaque lesion extending across the whole of the upper and middle lung zones, displacing the trachea to the contralateral side.

A chest computerized tomographic scan demonstrated that the mass extended from the apex of the left hemithorax to the level of the 7th rib with the erosion of the left first rib, displacement of the heart anteriorly, and compression of the left main bronchus [Figure 1]. Other investigations were all normal.

A diagnosis of large benign left posterior mediastinal tumor with compression of the left recurrent laryngeal nerve and a left Horner’s syndrome was made.

She had a left posterolateral thoracotomy which revealed a large, well-encapsulated, grayish-yellow, tumor occupying a large portion of the upper and middle left hemithorax.

She had a capsulotomy and complete intracapsular excision of the tumor with a near total excision of the capsule, leaving behind the portion adherent to the suprampleural membrane and adventitia of the aortic arch.

The tumor dimensions were 20 cm × 15 cm × 10 cm and weighed 2.7 Kg [Figure 2]. She was admitted to the Intensive Care Unit for monitoring for 2 days and was discharged home 8 days later after an uneventful postoperative period. The histology of the lesion turned out to be a benign schwannoma. The pre- and post-surgical chest radiographs are shown in Figure 3.

Posterior mediastinal tumors in adults tend to be benign and asymptomatic and are usually only diagnosed as incidental findings on chest radiographs. Neurogenic tumors are the most common type of posterior mediastinal tumors accounting for 75% of all posterior mediastinal tumors and 20% of all mediastinal tumors. Of neurogenic tumors, 75–85% of them are schwannomas. They typically arise from either the spinal nerves or thoracic nerves but may also arise from paravertebral sympathetic, vagus, or phrenic nerves. Schwannomas are typically well encapsulated and show cystic degeneration. They are usually asymptomatic and are usually found incidentally, when symptoms do appear in schwannomas, it is as a result of compression on other thoracic structures. These include dyspnea, dysphagia, stridor, superior vena cava syndrome, and features of Horner’s syndrome. This lack of early symptoms usually makes the patient present late, when the tumor would have grown to a sufficiently large size.

Figure 1: Computed tomography scan showing compressed left main bronchus
large size to cause compression of adjacent structures. This was typified by our patient who had an incidentally discovered mass 20 years earlier and only presented due to progressively increasing dyspnea, hoarseness of voice, and Horner's syndrome.

Imaging modalities are the investigation of choice. A chest X-ray (posteroanterior and lateral views) would typically show a smoothly rounded or oval mass located in the paravertebral sulcus which may be calcified or show erosion of bones in long-standing schwannomas. Overall, there is no pathognomonic feature on X-rays that would suggest a Schwannoma. Computerized tomographic scans of the chest typically show a homogeneous soft-tissue mass with clear preservation of the fat planes. With contrast examination, these masses are typically heterogeneous due to cystic degeneration.

The traditional approach to treating large posterior mediastinal tumors is complete excision via a posterolateral thoracotomy. Video-assisted thoracoscopic surgery is ideal for small tumors and those not adherent to vital structures; however, this would not have been appropriate for this patient due to the very large size.

Surgical excision usually confers excellent survival and recurrence is uncommon.

Posterior mediastinal schwannomas should be considered in any patient with a mediastinal mass, especially one of long-standing duration. Surgical excision is usually warranted and confers cure.

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