Case Report

Thoracoscopic Removal of A Thoracic Paraspinal Schwannoma: Report of Case
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Summary
Schwannomas well-encapsulated benign tumors that originate from Schwann cells and are ordinarily solitary lesion. Diagnosis and treatment of benign neurogenic tumors usually requires complete excision of the tumor, because of doubt about the diagnosis, the increasing size of the tumor, and the possibility of malignancy, early surgical exploration and resection is a frequently accepted entire surgeons. A 38 years male patient who was diagnosed a mass lesion incidentally. The posterior mediastinum tumor located in left paravertebral region. We declare the report of one case incidentally diagnosed and given the advantages shown by the efficacy of this technique and their less invasive nature.

Key words: Videothoracoscopic resection , Intrathoracic neurogenic tumors

INTRODUCTION
Intrathoracic neurogenic tumors are neoplasms that arise from any of the neural elements in the thorax. These tumors are derived from the various neural elements (nerve sheath, ganglion, or neurite) of the peripheral, autonomic, or paraganglionic nervous systems(1). Intercostal nerve rami and the sympathetic chain found in this region account for 95% of intrathoracic neurogenic tumors. Recently, attempts have been made to resect these tumors via video-thoracoscopically in a minimally invasive surgery.

CASE PRESENTATION
38 years male patient, due to lumbar pain, admit the special health center stage with renal colic. He was diagnosed a mass lesion incidentally examination by ultrasound. Computed tomography showed of mass located in left paravertebral 10th thoracic vertebra. CT and MRI (Magnetic resonance Image) revealed a mass which size of approximately 3 cm is not connected to the spinal cord (Fig. 1,2). The mass was planned resection via video assisted thoracoscopic surgery. Prior to surgery patient had detailed history and physical examination, routine chest
radiography, electrocardiography and standard laboratory blood tests. The patient was intubated with a double-lumen tube and were placed in standard postero-lateral thoracotomy position. Video telescopic camera was inserted through a port at the midaxillary line through the fifth intercostal space and two working ports were usually located at the anterior and posterior axillary lines, according to tumor location. The parietal pleura covering the mass were circumferentially incised and with blunt dissection the tumor was mobilised (Fig. 3). Intercostal and vertebral vessels supplying the tumor were cauterized with tumor was resected and pulled out from one port. At the end of the procedure a chest drain was placed in the pleural cavity. The mass was sent to pathology laboratory. The patient discharged the hospital follow-up forth day. In this case, schwannomas was confirmed by histomorphological and immunohistochemical studies. The case showed the typical histopathological features of a schwannomas, with excellent circumscription; numerous thick-walled, hyalinized blood vessels; cellular Antoni A areas; and hypocellular Antoni B areas. The majority of the tumor cells were bland, uniform spindle cells with wavy nuclei (Fig. 4). No mitotic activity or necrosis was present. Tumor cells staining for protein S100 was positive (Fig 5).

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**Fig 1:** Computed tomography showing right posterior mediastinal mass.

**Fig 2:** MRI showed a tumor located in right posterior mediastinum.
DISCUSSION

Neurogenic tumors stem from the nerve tissues of the thorax and are generally located in the posterior mediastinum of the chest wall. These tumors are usually solitary lesions which bulge toward the pleural cavity in the posterior mediastinum and sometimes invasion the lung parenchyma\(^1\). Schwannoma well-encapsulated benign tumors that originate from Schwann cells and are ordinarily solitary lesion Diagnosis and treatment of benign neurogenic tumors usually requires total excision of the tumor. Because of the doubt about the diagnosis. The increasing size of the tumor and the possibility of malignancy, early surgical exploration and resection is a frequently accepted entire surgeons\(^2\). Schwannomas which asymptomatic with has a smooth margin lesion. Malign potential situation is very low and when the tumor was totally removed, is rarely seen in relapse\(^5\). To localise and define the nature of the tumor a computed tomographic (CT) scan was obtained in all patients. For tumors located in the paravertebral sulcus and in cases if the suspected involvement of the

**Fig 3:** Schwannoma was identified thoracoscopically.

**Fig 4:** Histological section of tumour demonstrating Antoni A and B areas illustrating and hyalinized blood vessels (H&E X100).

**Fig 5:** Showing the tumor cells were positive for S-100 protein (S-100 X200).
intervertebral foramen at CT scan. Magnetic resonance imaging (MRI) scan was carried out in order to better define the tumor's vascular and nerve relations and its extension into the spinal canal. Once the diagnosis of a dumbbell tumor has been established, carefully planning of a combined neurosurgical and thoracic procedure is required(3).

Most nerve sheath and autonomic system tumors, as well as schwannoma, arise in the posterior mediastinum and are best approached by a standard posterolateral thoracotomy(4). Surgical resection is considered the treatment of choice for such tumors and postero-lateral thoracotomy has been the traditional surgical approach. However, classical standard thoracotomy has often required big and painful incisions. Video-assisted Thoracic Surgery as called minimal invasive procedure lessens and excellent visions occurred. This procedure is suitable for diagnosing and complete resecting masses in all of the mediastinal compartments. The access of mediastinum can be approached with thoracoscopic to open the at least three port under video vision, benign neurogenic tumor covered by pleura is easily identified. Video-assisted thoracoscopic surgery (VATS) has largely been documented as a safe and effective method for excising such tumors(3). The tumor is usually well encapsulated and can be easily mobilized from the surrounding structures if necessary. Dissection of the nerve of origin must be carried out, and division of intercostal vessels may also be required using cautery or clips under telescopic video vision. In most benign neurogenic masses, there is an easily developed plane between the tumor and adjacent tissue that lends itself well to total thoracoscopic excision.

In conclude, videothoracoscopy is a good alternative in managing neurogenic tumors of the thorax and alternative to facilitate the excision of small thoracic neurogenic tumours.

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