

Neurogenic Tumor of The Chest Wall: A Case Report

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ABSTRACT: A rare case of schwannoma of the chest wall is presented. A 65-year-old Japanese man had a painful mass, measuring 3×3cm, in the 10th intercostal space of the right back. A fine needle biopsy seemed to fail to prove a nature of the tumor. A computed tomography (CT) scan of the chest showed a well-demarcated low density mass with no invasion to the ribs, lung and pleura with the CT density being 30 Hounsfield unit. These findings were suggestive of a neurogenic tumor. The tumor was easily extirpated and a histological diagnosis was schwannoma.

INTRODUCTION

Neurogenic tumor of the chest is commonly seen in the posterior mediastinum but rare in the thoracic wall¹⁻²⁾; only 38 cases have been reported in the Japanese literature³⁾. We herein report another case.

CASE REPORT

A 65-year-old Japanese man had a painful mass in the right back, which he noticed about 4 years ago. Recently the mass gradually increased in size and became more painful especially in a patient's supine position. His family history was not remarkable, and past history included diabetes mellitus, transurethral resection (TUR) of the urinary bladder tumor and aorto-coronary bypass surgery for ischemic heart disease at the age of 58.

A physical examination revealed a smooth, firm, poorly mobile tumor with tenderness in the 10th intercostal space of the right back. The tumor measured 3×3cm in size. A fine needle aspiration biopsy showed normal striated

muscular tissue and seemed to fail to prove a nature of the tumor.

Laboratory tests and chest X-ray showed no abnormalities. Bone scintigram using 99m-Tcchnetium demonstrated no uptake at the corresponding area. A computed tomography (CT) scan of the chest showed a well-demarcated low density mass with no invasion to the ribs, lung and pleura (**Fig. 1**). The CT density of the mass was 30 Hounsfield unit (HU). These findings were suggestive of a neurogenic tumor.

At operation, the tumor was easily extirpated under local anesthesia, being a well-demarcated mass with no invasion to the intercostal nerve, surrounding organs and structures. The patient became free of symptoms after surgery.

The resected specimen showed a smooth-surfaced, egg-shaped, grayish-white, soft and solid tumor, measuring 2.5×1.8cm. A histological diagnosis was schwannoma which consisted of fusiform cells with nuclear palisading. Antoni A and B areas were seen. There was no evidence of malignancy.

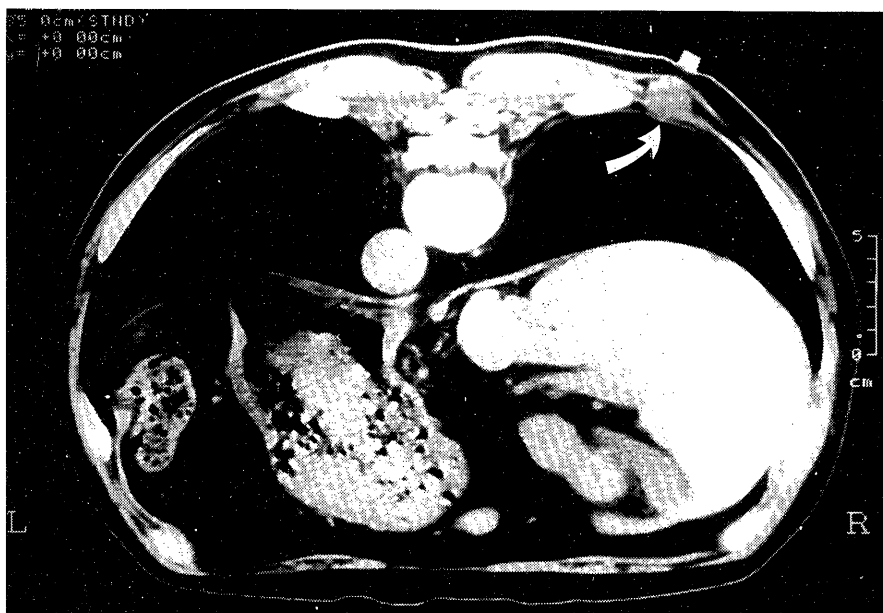


Fig. 1. Plain CT scan of the chest taken in a patient's prone position showing a low density, well-delineated mass, measuring 1.5cm in size, with no invasion to the ribs, lung and pleura (arrow). A CT density of the mass was 30 HU.

DISCUSSION

Neurogenic tumor of the chest wall is rare, comprising 5.4% among neurogenic intrathoracic tumors¹⁻²). Thirty-eight cases have been documented in the Japanese literature³), more than half of these being asymptomatic and the remaining cases having pain. The tumor size varied from 1.5 to 28cm by the greatest dimension with an average of 6.6cm³). A chest X-ray and CT-scan showed no specific findings. The latter, however, provides useful information regarding the extent of the mass and invasion to the surrounding structures and organs. An average CT density is 24HU showing a low density⁵⁻⁶), which may be of diagnostic help, but not specific. Aspiration needle biopsy may be pathognomonic, if an appropriate specimen can be obtained. The previous data, however, failed to prove a diagnostic nature of the tumor in half of the cases in a Japanese series³).

Most neurogenic intrathoracic tumors were benign, only 5-6.5% being malignant^{1,4}). In the above Japanese series³), three of 38 cases (7.9%) proved malignant. It should be emphasized that

even if a mass is shown to be benign by a preoperative aspiration needle biopsy and/or intraoperative frozen section examination, surgeons must be aware of a possibility of malignant nature of the tumor, because a differential diagnosis between malignancy and benignancy of this condition is sometimes difficult by these diagnostic methods¹).

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