

# **Mediastinal Neurilemmoma Demonstrated by Positive Tc-99m(V) DMSA SPECT and Negative Ga-67 Uptake**

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## **Abstract**

Schwannoma is a benign neurogenic tumor arising from the sheath of a peripheral nerve. Tc-99m(V) DMSA, developed by Yokoyama et al. in 1981, has been recognized as advantageous for the scintigraphic diagnosis of various malignant tumors and their metastases. Uptake of Tc-99m(V) DMSA was seen not only in malignant tumors but also in benign lesions. Tc-99m(V) DMSA has been reported to accumulate in soft-tissue tumors, such as neurofibromatomas and Schwannomas. In the current report, the authors describe uptake of Tc-99m(V) DMSA in a mediastinal neurilemmoma, but not Ga-67, which is very useful in suggesting the nature of the tumor.

Key Words: Ga-67; Mediastinal Neurilemmoma; Tc-99m(V) DMSA.

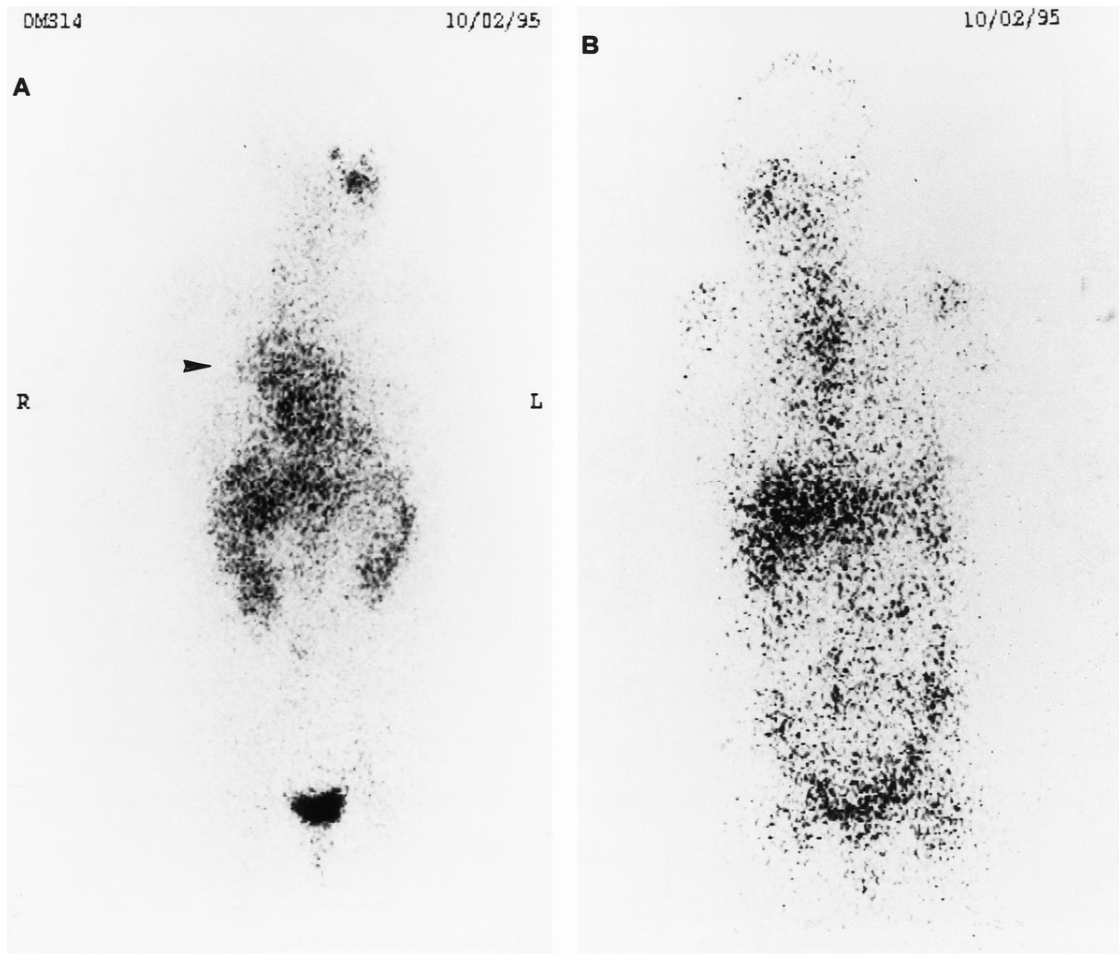


Fig. 1. A 71-year-old woman was examined because of epigastric distress, dry cough, and poor appetite. Physical examination was significant only for coarse breath sounds and mild epigastric tenderness. The results of a complete blood count, urea, electrolyte, and liver function tests were normal. After the intravenous administration of 111 MBq (3 mCi) Ga-67 citrate, whole-body images, using a gamma camera (Vertex, ADAC, Milpitas, CA), were acquired after 72 hours. Later whole-body scintigrams and SPECT of the chest were obtained at 4 hours after intravenous administration of 555 MBq (15 mCi) Tc-99m(V) DMSA. Image acquisition of SPECT was performed for 25 seconds per projection on a  $128 \times 128$  matrix with a 20% symmetric window at 140 Kev. A Butterworth filter was used to reconstruct images in the transverse plane. Whole-body images with Tc-99m(V) DMSA ([Fig. 1A](#)) showed an area of increased uptake in the right lower lung (arrow), whereas there was no uptake of Ga-67 citrate in the tumor ([Fig. 1B](#)).

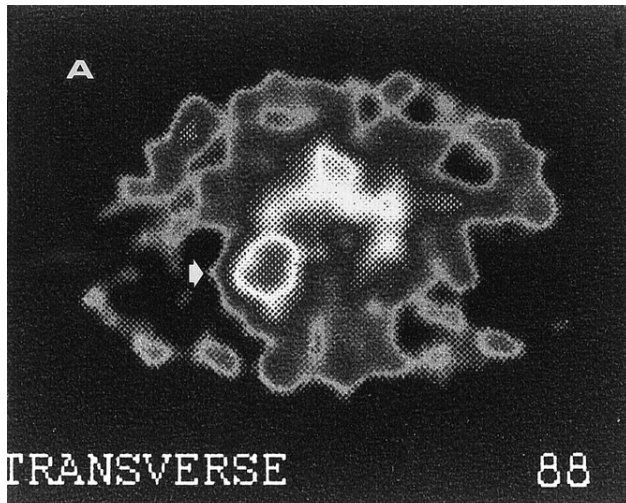


Fig. 2. (A) A chest Tc-99m(V) DMSA

SPECT showed marked uptake of Tc-99m(V) DMSA in the right lower lung with extension to the posterior mediastinum (arrow). This corresponded to the area of the inhomogeneous signal seen on the chest CT (arrow). (B) Thoracotomy and tumor removal revealed a neurilemmoma with hemorrhage and cystic change. Benign Schwannoma (also known as neurilemmoma, neurinoma, and perineural fibroblastoma) (1) is the most common tumor of the peripheral nervous system. Tc-99m(V) DMSA scintigraphy has been reported to be useful for the diagnosis of various tumors and benign lesions (2-8). In this case, a pathologically proved mediastinal neurilemmoma concentrated Tc-99m (V) DMSA but not Ga-67. This procedure appears useful in suggesting the characteristics of a tumor showing a positive Tc-99m (V) DMSA scan and a negative Ga-67 study.

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