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Case Report

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Giant Radiation-Induced Thoracic Malignant Schwannoma

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Abstract

Schwannomas growing to large sizes in the thoracic cavity are rare. We report such a case in a patient with a history of Hodgkin's lymphoma and radiotherapy more than two decades before, an example of a radiation-induced malignant schwannoma with a bad prognosis.

Keywords: Giant Malignant Schwannoma; Hodgkin's Lymphoma; Radiotherapy

Introduction

Spinal schwannomas have an incidence of 0.3 - 0.4 cases/100,000 persons per year and account for 25% of intradural spinal cord tumors [1, 2].

Case Report

A 42-year-old female presented to our emergency department with weakness and loss of sensation in the right foot of one week duration. General medical exam was unremarkable. Muscle strength in the right lower extremity was 1+ and left lower extremity 3+. Deep tendon reflexes were intact bilaterally. Toes were down-going bilaterally. She had stocking-like anesthesia in the entire right lower extremity and below the calf in the left lower extremity. She had a history of Hodgkin's lymphoma treated 22 years ago with radiation therapy. Magnetic resonance imaging (MRI) showed a huge 9.3 × 9.4 × 9.3 cm mass in the right thoracic cavity originating from the spinal canal (Fig. 1, 2). Fine needle aspiration revealed malignant schwannoma compatible with malignant peripheral nerve sheath tumor. The patient had T1-3 laminectomy and resection of the intradural-extramedullary neoplasm. She also had thoracotomy and resection of the intracavitary lesion. Unfortunately, the patient expired within several months after surgery.

Discussion

This is a very rare case of a giant type IV schwannoma growing in the confined space of the thoracic cavity without significant pulmonary symptoms. A giant type IV schwannoma is an intraspinal-extraspinal dumbbell-like tumor with the extraspinal component more than 2.5 cm in diameter [2]. Spinal schwannomas are mostly benign and extramedullary and rarely grow beyond 6 - 8 cm in diameter without giving significant symptoms [2-6]. They may, however, manifest themselves in different ways. For example, Georghiou et al., 2003, reported a 57-year-old woman who presented with progressively aggravated dyspnea at rest, productive cough, and a referred vague left chest pain. She was found to have a 12 × 14 cm schwannoma compressing the upper lobe of the left lung and displacing the mediastinum with subocclusion of the main pulmonary artery [7]. Kara et al, 2002, reported a 45-year-old woman who presented with cough and mild sputum production and was found to have a 16 cm ancient schwannoma in her left hemithorax [8]. On the other hand, Kumar et al, 2006, reported an incidental finding of a 14 × 15 × 19 cm schwannoma in the right hemithorax of a 59-year-old woman [4]. Schwannomas, thus, can be insidious tumors that give subtle symptoms for many years before the patient decides to seek medical help [9] or discovering them by chance [10].

Our case is interesting because previous radiotherapy probably contributed to the pathogenesis of the schwannoma. These tumors can occur 10 to 50 years after the original

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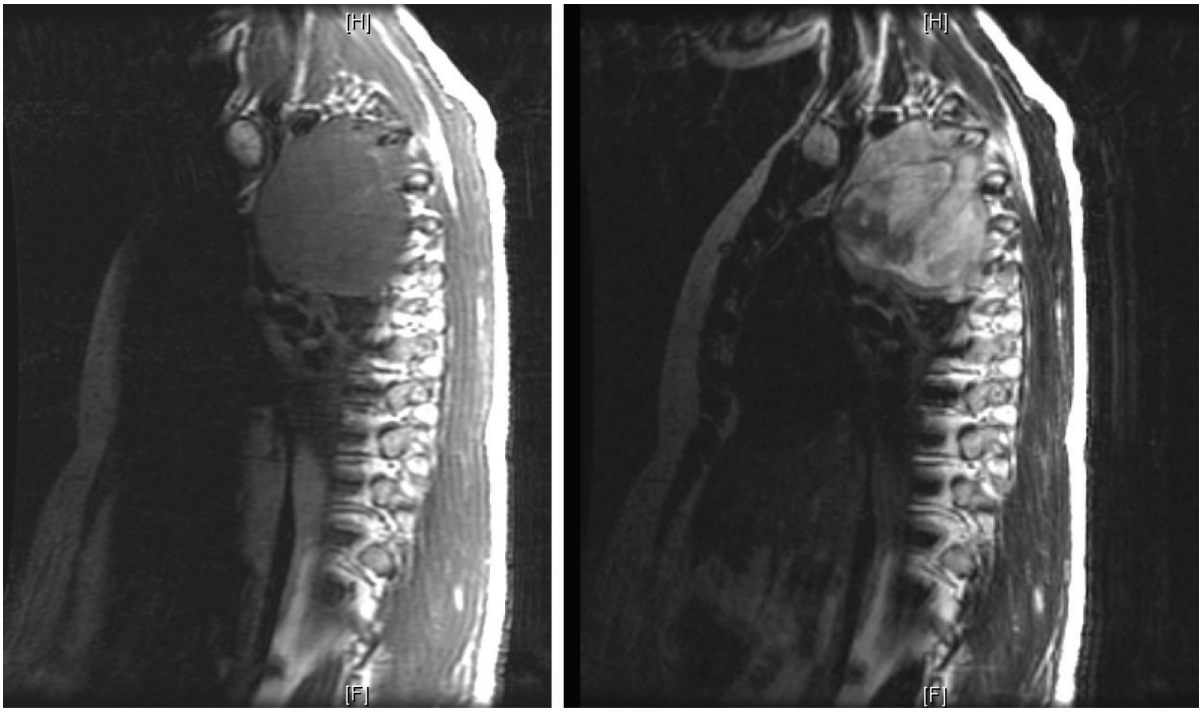

Figure 1. MRI T1 (left) and T2 (right) sagittal views of the thoracic cage.

radiation [11-14]. Malignant forms of these tumors have dim prognosis [15-17].

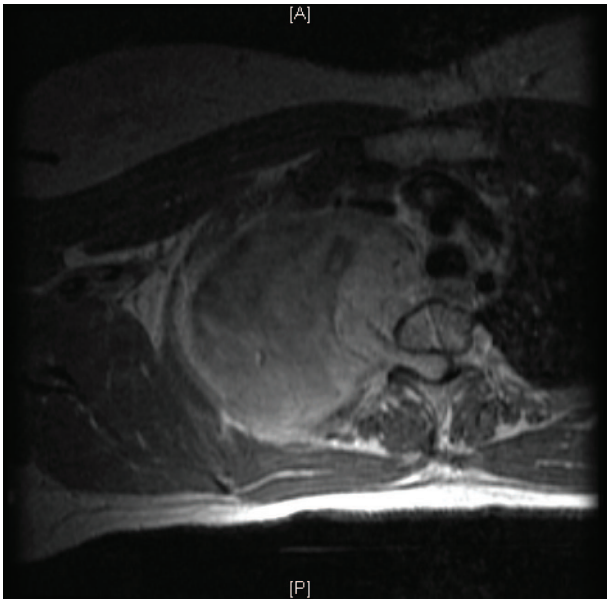

Figure 2. MRI T1 transverse view of the thoracic cage.

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