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KEYWORDS :

Large Mediastinal Thymolipoma: Report of a Peculiar Case

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CASE REPORT

A 32-year-old man had a large left sided mediastinal mass discovered by chest radiograph during evaluation of dull pain during deep inspiration in upper abdomen. He had no history of autoimmune diseases including myasthenia gravis, aplastic anemia, hypogammaglobulinemia, lichen planus, or Graves' disease. A computed tomography scan of the chest demonstrated a large mediastinal mass consisting of fat and soft tissue, radiologicallybenign mass lesion(Fig. 1).

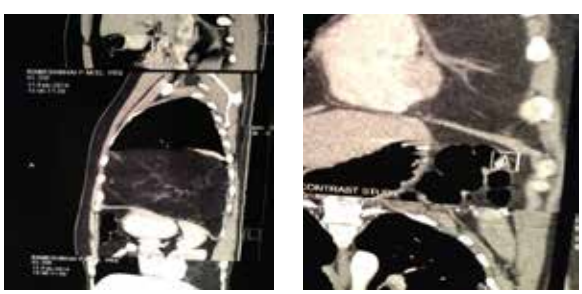

Fig. 1

The tumor was surgically removed by left anterolateral thoracotomy. Grossly, it was fairly wellcircumscribed by a thin fibrous capsule, and measured 20×17×8 cm. The outer surface was soft, yellow fatty tumor with focal solid areas (Fig. 2). Histologically, characterized by the presence of abundant mature adipose tissue admixed with areas containing remnants of thymic tissue (Fig. 3A). The thymic tissue varied from strands of atrophic thymic epithelium to large areas containing thymic parenchyma with lymphocytesand epithelial hyperplasia (Fig. 3B, C). There is no cytological atypia or mitotic figures.

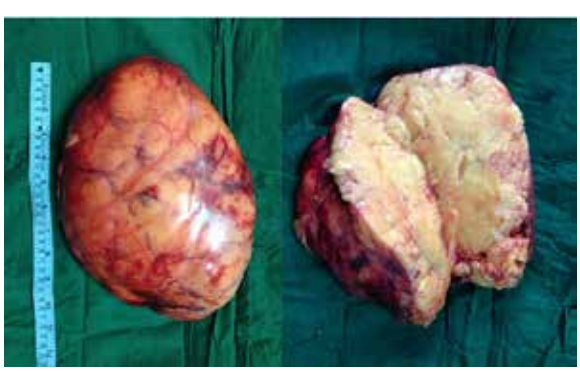

Fig. 2

Fig. 3

The mass shows abundant mature adipose tissue admixed with areas containing remnants of thymic tissue. (B, C) The thymic tissue component varies from strands of atrophic thymic epithelium to large areas containing thymicparenchyma.

INTRODUCTION

Thymolipoma is an uncommon benign tumor of the anterior mediastinum. The cause is disputed, but themost accepted theory of pathogenesis is replacement of

the thymus by mature adipose tissue. The tumor growsslowly and can become large. Although most patientswith a thymolipoma are asymptomatic, local nonspecificsymptoms may present or the tumor may be associatedwith parathymic syndromes such as myasthenia gravis,hyperthyroidism, lymphangiomas, aplastic anemia,chronic lymphocyte leukemia, and Hodgkin disease. We describe an adult whopresented with left-sidedpleural pain, thedefinitive diagnosiswas giant thymolipoma.

DISCUSSION

Thymolipomas are rare, benign mesenchymal tumors of the mediastinum that are often asymptomatic.1 Thymolipomas may adhere to the adjacent structures and displace organs within the chest cavity, but invasion into adjacent structures has not been documented in the literature. The encapsulated and lobular nature of thymolipomas and the lack of invasion into adjacent structures usually allow for a relatively uncomplicated surgical excision of the tumor..

Immunohistochemically, the myoid cells of the present case revealed positivity for desmin and myoglobin but negativity for alpha smooth muscle actin. Smooth muscle actin is a ubiquitous contractile protein responsible for muscle cell motility. It is an extremely useful marker for the identification of smooth muscle cells, myofibroblasts, and myoepithelial cells. Desmin, a muscletype intermediate filament, is found in cells of smooth and striated muscle and in a lesser amount in myofibroblasts. Therefore, it has been primarily used for the identification of smooth muscle and skeletal muscle tumors. Especially, positivity for desmin and negativity for actin may be a feature of a subset of cells of myofibroblastic appearance.

There are controversial theories concerning the histogenesis of thymic myoid cells: 1) derivation from the neural crest, 2) transformation from epithelial cells, and 3) originating from perithymic mesenchymal cells that become incorporated into the thymus.4 Regardless of origin, most thymic myoid cells, as in our cases that were identified by surgical excision, are benign, although their recognition as a benign entity may be difficult in limited biopsy material. Thymic myoid cells demonstrate immunophenotypic and ultrastructural features of skeletal muscle

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differentiation, which may be useful in their specific identification.2

The histologic differential diagnosis for thymolipomas includes thymic hyperplasia, thymic neoplasm including lipoma, extragonadal germ cell tumors or teratoma and well-differentiated liposarcoma.1 Thymic hyperplasia classically has unremarkable thymic architecture without the presence of abundant adipose tissue. The distinction between a lipoma and a predominantly fatty thymolipoma may be difficult. In the latter, extensive sectioning and immunohistochemical staining for cytokeratin may highlight any hidden thymic epithelial tissues in a thymolipoma. Teratomas commonly arise in the anterior mediastinum, are often associated with residual thymic tissue and may contain mature adipose tissue.4 Scattered myoid cells in thymic tumors, including thymolipomas, should not be confused with teratomatous elements of a germ cell tumor. Thymolipomas can be distinguished from teratomas by the absence of ectodermal tissues commonly associated with mature teratomas, such as skin and neuroglia. Mediastinalliposarcomas may grossly resemble benign thymolipomas and may be associated with thymic tissue. Thymolipomas can be distinguished from thymoliposarcomas by the absence of prominent areas of sclerosis, characteristic lipoblasts, scattered atypical stromal cells and other features of classic liposarcoma. Thymoliposarcomas containing striated myoid cells have not been described to date.

In the present case, myoid cells were observed, but there were no symptoms of myasthenia gravis. The myoid cells in thymolipoma were identified by immunophenotype and demonstrated a benign morphology. Thymolipomas containing myoid cells should be differentiated from other thymic neoplasms, including germ cell tumors and liposarcomas. Studies are necessary to elucidate the relationship between thymolipoma and myoid cells. Thus, exhaustive testing of all thymic neoplasms is vital

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