Roentgenogram of the Month

Rapidly Developing Mass in an Asymptomatic Man*

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A 65-year-old asymptomatic white man was admitted to the hospital on March 15, 1977 for further investigation of a mass discovered on a routine chest radiograph. A previous chest roentgenogram in December, 1975 was normal.

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Two weeks before admission he noticed a localized bulge in the upper part of his left anterior chest. The only significant past medical history was an episode of upper gastrointestinal bleeding. He smoked half a pack of cigarettes per day for many years. Physical examination disclosed a 5 × 3 cm hard chest wall mass below the left clavicle. All laboratory tests were normal. Figures 1 and 2 are admission chest films.
**Diagnosis: Chondrosarcoma of the sternum**

Posteroanterior and lateral chest roentgenograms (Fig 1 and 2) show a 6 cm sharply demarcated round density in the left anterior-superior mediastinum. It overlies but does not obliterate the aortic arch. Neither destruction of the manubrium nor the presence of calcification was seen on these films. On the second hospital day, a high kilovoltage AP tomo-gram (Fig 3) demonstrated complete destruction of the left half of the manubrium with multiple granular and small nodular calcifications in the upper sternum (arrow).

Excision of the manubrium, left clavicle and adjacent portions of the ribs was performed. Pathologic examination of the specimen demonstrated a 6 × 5 × 4 cm well-encapsulated tumor mass that replaced the manubrium, with involvement of costal cartilages. Histologic diagnosis was moderately well differentiated chondrosarcoma.

An anterior-superior mediastinal mass may be a teratoma, thymoma, hemangiomma, hemangiosarcoma, lymphoma, lymphadenopathy, aortic or pulmonary artery aneurysm or hematoma. Primary tumors of the sternum are uncommon. Pascuzzi et al reviewed 144 primary tumors of ribs and sternum. Of these, seven were chondrosarcoma of sternum. Chondrosarcoma and myeloma are expansile lesions. The presence of mottled calcifications is a characteristic radiographic feature of chondrosarcoma.

Localized pain and swelling are the usual presenting symptoms. Our patient was asymptomatic.

Chondrosarcoma is very unusual. The prognosis of sternal chondrosarcoma is very poor; five of seven patients in Pascuzzi’s study died. The treatment of choice is surgical excision.

**References**