Case Report
Primary costal myelolipoma: a case report and review of the literature

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Abstract: Extra-adrenal myelolipoma is an uncommon entity. But myelolipoma located in the bone is extremely rare. We report a case of myelolipoma occurring in an unusual site: the Costa. It was demonstrated by Computed tomography (CT) scan that an expansive bony mass with heterogeneous low density contents adhered to the 6th ribs. The mass was successful resected and which was yielded to a bony lump through grossly inspection. Histological, the mass was confirmed as an intraosseous myelolipoma, with mature adipocytes mixed with hemopoietic cells. To the authors’ knowledge, it is the first reported that myelolipoma located in the rib in human beings.

Keywords: Extra-adrenal myelolipoma, intraosseous myelolipoma, costa

Introduction
Myelolipoma is an uncommon benign tumor, which consisting of mature adipose tissue and hematopoietic elements [1]. This lesion was first described by Gierke in 1905 and was named myelolipoma by Oberling in 1929 [2]. Myelolipomas most commonly occur in the adrenal glands, but extra-adrenal myelolipomas are rare with a few cases of kidney, perirenal part, presacral region, retroperitoneum, pelvis, spleen, and chest in the literature [2-4]. And fewer cases had been reported in the bone [5-7]. Herein, we present a case of primary myelolipoma occurring in the Costa of an 18-year-old Chinese man.

Case presentation
An 18-year-old man, who was a student, was admitted to the Guizhou Provincial People’s Hospital due to by chance found a mass in the left anterior chest during a routine physical exam. No other complaints or previous disease were noted. Physical examination did not reveal any other abnormalities, such as hepatosplenomegaly, lymphadenopathy or adrenal mass. Laboratory studies revealed no abnormal findings on blood and urine routine examination, renal and liver function tests. Only chest CT scan showed that a mass was derived from the anterior 6th rib, well-circumscribed osseous mass with heterogeneous low density contents, and irregularly sclerosis at the rim of lesions (Figure 1).

Under the C-arm positioning, the patient was performed with a surgical procedure. After that, the mass and part of costal pleura and ribs were radically excised, which was extrinsic and adherent to the 6th ribs. The wall of mass had thin, crisp and fragile characters. There were some reddish and yellowish soft tissues in the middle of the mass. The excised specimen was measured 2.0 cm × 2.0 cm × 1.5 cm and was described as a bony mass, and this lesion destroyed cortical bone and without any trabecular bone in the middle of the mass.

Histological examination revealed that this lesion was a bony shell around soft tissues. The soft tissues composed of fewer atrophy trabecular bone and more tissue, which was mature adipocytes mixed with hemopoietic cells. Hemopoietic cells consisting of trilineage elements: myeloid, erythroid and megakaryocytic cells, and local reticular fibers (Figure 2).
The patient recovered well from the surgery without any complications, and was discharged on the 8th postoperative day. There were not any complications or tumor recurrences during 2 years of follow-up.

Discussion

Myelolipoma is a benign tumor. It mostly occurs in the adrenal glands, and extra-adrenal myelolipoma is infrequent. The etiology of myelolipoma is still unclear and they are considered a type of extramedullary myeloid proliferation.

Our review of the literature demonstrates there have been about 60 reported cases of extra-adrenal myelolipomas, some with multiple lesions and locations including: nasal cavity, pulmonary-brochus, pleural, liver, hepatic falciform ligament, mediastinum, renal, perirenal, paravertebral, intraperitoneal, retroperitoneal, presacral, and even in the bone [2-7]. Based on
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tumors by radiographic differentiation. So the final diagnosis should depend on pathological features of the surgically removed sample.

Disclosure of conflict of interest

None.

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