An unusual presentation of giant extrathoracic tumor in a child - managed successfully

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Lipoma is one of the most common mesenchymal tumors, usually seen over the trunk and proximal portions of the extremities. However, giant lipomas are very rarely seen over the chest wall and axilla in children. In rural areas, patients usually do not bother to be treated, which leads to complications, as seen in our case. Here, we report a rare case of a three-year-old child who presented with a large swelling on the right side of the anterior chest wall and in the axillary region. On histopathology, the diagnosis was lipoma. At the six-month follow-up, the child was normal without any complications. The clinical features, radiological and pathological findings and management of the lesion are discussed. If such a large tumor is not treated in a timely manner, it can cause respiratory discomfort or lead to malignancy.

Key words: anterior chest wall, giant, adipose tumor, benign, inframuscular, surgery.

Lipomas are very common mesenchymal benign tumors occurring throughout the body, while in general, fat tissue tumors account for 6% of soft tissue tumors in the pediatric population[1,2]. The most frequent site in children is the trunk, but they have been reported anywhere on the body. However, the incidence differs largely according to the site, and giant lipoma over the chest wall is very rarely seen, especially in children, almost exclusively described in case reports. The complaints depend on the effects of mechanical compression on adjacent structures. In addition, cosmetic problems may occur that alter the quality of life of patients, and recurrence is about 5%. Lipoblastomas and their multicentric/infiltrative forms, lipoblastomatoses, are rare benign soft-tissue tumors of embryonic lipoid cells[3].

Case Report

A three-year-old child with a huge swelling on the right side of the anterior chest wall is reported. Two years ago, the swelling was small, about 3 cm, and it increased to the present size without any pain. There was no history of pain or fever.

Parameters of the child were normal without any associated abnormalities. On local examination, a large swelling was present over the right side of the chest. Superiorly, it crossed the clavicle up to the neck, inferiorly reaching the 4th rib, extending laterally into the axilla and medially up to the sternal region (Fig. 1). Prominent vessels were seen over the swelling with no discoloration of the skin. The swelling was non-tender on palpation, there was no increase in local temperature, and it was firm in consistency, with a smooth surface and measuring about 18x13x8 cm. It was not fixed to the underlying structures or overlying skin. Movements of the right upper limb were within normal limits except for some discomfort while flexing the arm. The remainder of the systems were normal.

Chest X-ray was normal. Magnetic resonance imaging (MRI-Axial T1, T2 W) scan of the chest revealed a large hyperintense mass with hypointense radiating bands within it. There was no evidence of any areas of necrosis/ calcification. The mass was compressing the right chest wall, and crowding of the

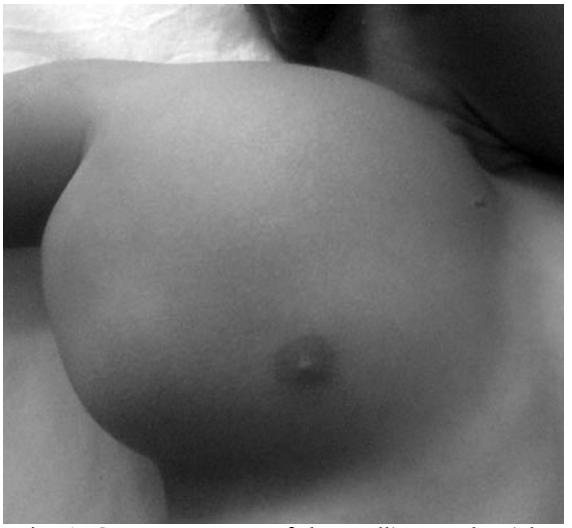

Fig. 1. Gross appearance of the swelling on the right side of the chest wall extending towards the axilla.

ribs was noted. The mass had lifted up the right pectoralis muscle. The remainder of the structures were normal. Diagnosis was made as right axillary lipoma with a few linear strands within it (Figs. 2a, 2b).

The patient was operated. A transverse incision was made in the upper quadrant of the right breast region, preserving the nipple. A large tumor was noted, composed of fibrous tissue. Its upper part was lying beneath the pectoralis muscle, extending laterally into the axilla, and some part was fixed to the shoulder joint. The tumor was well encapsulated and totally enucleated after mobilization without cutting/ damaging the muscles or axillary vessels. A drain was placed in the axillary space and the skin was closed (Fig. 3). On gross cut section, the tumor was homogeneous, greyish yellow, and greasy on touch, measuring 16x11x6 cm and weighing 900 g. On histopathology, the diagnosis was benign lipomatous lesion. Microscopic section showed encapsulated lesion composed of mature adipose tissue, separated by the fibrous septa. Postoperatively, the child had an uneventful recovery. At the six-month follow-up, the child is doing well with normal movement and no recurrence.

Discussion

Lipoma occurs in almost all parts of the body where fat normally exists, and thus it is also known as ubiquitous tumor or universal tumor. In children, cutaneous lipoma is rare,

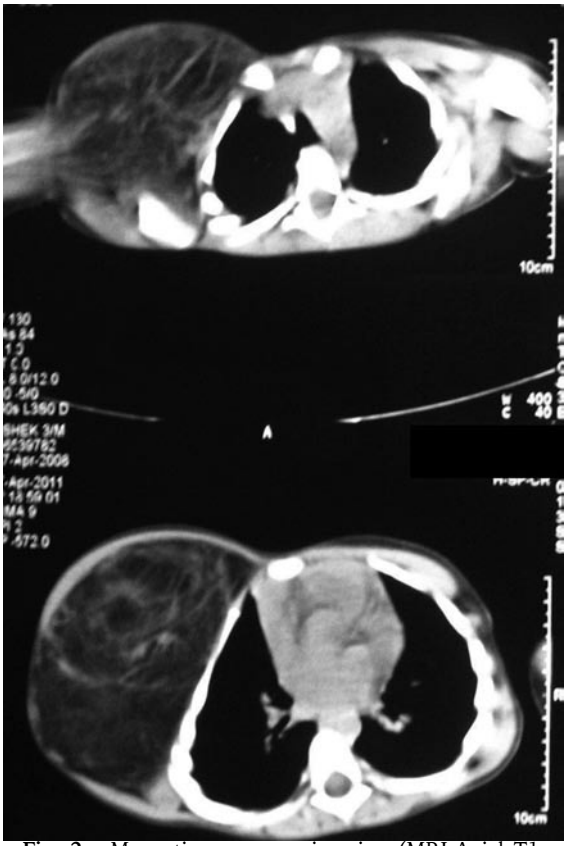

Fig. 2a. Magnetic resonance imaging (MRI-Axial T1, T2W) of the chest showed a large tumor with radiating bands.

which can be part of a syndrome known as the Bannayan-Riley-Ruvalcaba syndrome[4]. The term giant lipoma is defined if the size of the tumor is larger than 5 cm in any dimension[5]. In our case, the tumor was 18 cm in diameter, thus falling in the category of giant lipoma. No calcification was noted despite the large size.

Most of the lipomas present as small subcutaneous swellings without any specific symptom. The severity of the symptoms depends on the size and site of the mass and pressure complications. Giant lipomas can present with pain because of the stretching of adjacent nerves, restriction in movements of the part involved or social embarrassment because of the large size of the swelling. Lipomas can be seen commonly over the thigh, shoulder or trunk etc., but giant lipomas are occasionally found in children especially over the chest wall without causing any complications, as in our case.

The typical clinical aspect of the lipoma is soft, lobulated and mobile in the case of

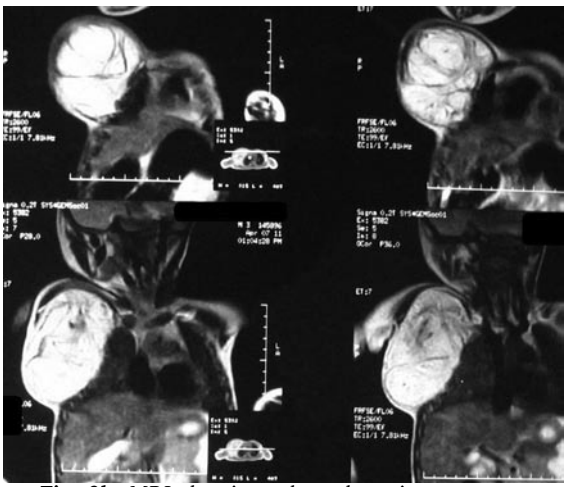

Fig. 2b. MRI showing a large hyperintense mass without any necrosis or calcific foci; the mass was lying under the right pectoralis muscle.

subcutaneous lipomas, with an average size of 3 cm. Lipomas arising from the deeper compartments, such as subfascial, intramuscular or intermuscular lipomas, appear as capsulated, well-circumscribed masses with smooth borders and they are often adherent to the muscle. They represent less frequent lipomas that can reach an unusual size exceeding 10 cm, such as in this patient[6].

Radiological investigations today facilitate an earlier diagnosis, but the definitive diagnosis of giant lipoma can be made only by histopathological examination.

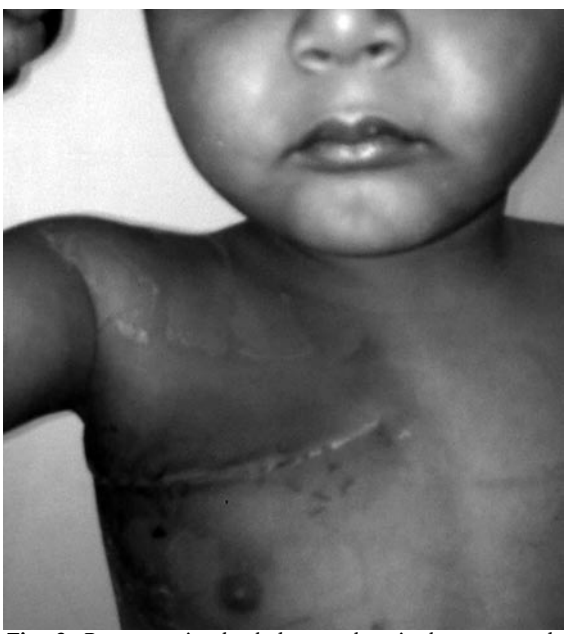

Fig. 3. Postoperative healed scar; the nipple was saved.

The characteristics of benign lipomas on ultrasonography, computerized tomography (CT) and MRI have been well established, and we also made a provisional diagnosis on MRI[7]. MRI is the preferred modality for the evaluation of a soft tissue mass after plain films have been taken[8].

Surgery is the treatment of choice of these giant swellings due to their tendency to recur and their potential hazard for malignant transformation; another option for the treatment of these giant swellings is liposuction[9].

The aim of presenting this case was to highlight the negligence by the parents, who lived in a rural area, which led to the advanced complications of the disease. Surgical excision is the gold standard of its management and in this new era, liposuction can also be done. The present case demonstrates ignorance by the parents and the rarity of the disease. Such large tumors can create pressure on nerves and lymphoedema of the arm and lead to respiratory discomfort, etc.

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