Case Report

Thigh Mass in a Toddler: Case Study of a Giant Fibrolipoma

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Abstract

Lipomas are the most common mesenchymal tumors in humans, with a slight male preponderance. Most lipomas affect the trunk and upper extremities; however, they can occur anywhere on the body where adipocytes exist. These are usually small, measuring less than one inch to a few inches in diameter. When a lipoma grows to a size of more than 10 cm (about 4 inches) or by a minimum of 1000 g, it is called a giant lipoma. Only about 1% of all lipomas can be classified as "giant." Lipomas are made up of lobulated, slow-growing, mature adipocytic tissue with limited connective tissue stroma. Differentiating between lipoma and liposarcoma of low-grade malignancy is typically difficult and involves several radiological examinations and histopathology. We are reporting a rare case of giant fibrolipoma in the right thigh of a two-year-old male child.

Keywords:

lipoma, giant, adipose tissue, fibrolipoma, thigh mass

Introduction

Lipomas are benign tumors of fat cells (adipocytes) that appear as soft, painless masses over the trunk but can arise anywhere on the body [1]. Males are generally more likely to get lipomas than females. Although they can occur at any age, they are most seen in the fourth and sixth decades of life [2]. In their usual shape, they rarely pose diagnostic challenges for pathologists. Lipomas in deep places (e.g., intramuscular lipoma, perineural lipoma) or with uncommon features (e.g., chondroid lipoma, lipoma with hibernoma, cellular angiolipoma, spindle cell/pleomorphic lipoma) might be confused with liposarcoma [3]. Giant lipomas are described as having a diameter of at least 10 cm in one dimension or weighing at least 1000 g [4]. They are often asymptomatic, but, in rare situations, they can induce compression symptoms due to nerve injury and difficulty walking [5,6].

There is insufficient data on the prevalence and incidence of these tumors due to the limited number of studies on pediatric lipomatous tumors in the literature [7]. According to Kim HJ, lipomatous tumors comprise at least 6% of all soft-tissue tumors seen in children [8].

Our case report describes a remarkable case of a huge fibrolipomatous tumor in a 2-year-old male's thigh, emphasizing clinical problems and management techniques.

Case Report

A two-year-old boy came to the pediatric clinic with a steadily growing mass in his right thigh that had been discovered six months prior. The parents reported no pain or functional impairment from the tumor. The child had no substantial medical or familia1 history of such disorders. The physical examination revealed a big, soft, and movable mass in the right thigh that measured approximately 16 cm × 14 cm [Figure 1]. The overlying skin was healthy, with no evidence of inflammation or ulcers. The tumor was non-tender, with no accompanying lymphadenopathies or systemic symptoms.

An X-ray of the affected location revealed a big mass; the underlying bone was intact [Figure 2]. An ultrasound of the right thigh revealed a well-defined, hypoechoic mass, indicating a lipomatous tumor. An MRI was performed to determine the size of the tumor, which revealed a massive, encapsulated lipoma with no penetration into the surrounding muscles or bone.

Figure 1: Huge mass involving the right thigh.

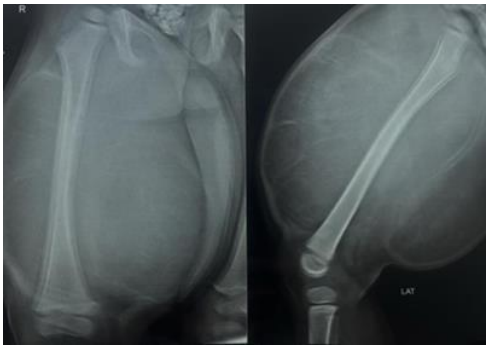

Figure 2: X-ray of the right thigh region shows a large mass; underlying bone is unaffected.

FNAC was indicated, and stained smears revealed characteristics consistent with a benign lipomatous tumor [Figure 3]. Given the size and possibility for future complications, surgical excision was advised. Under general anesthesia, the boy had his tumor completely removed. The tumor was resected with free margins, preserving the affected muscles [Figure 4]. The procedure was

successful, and the mass was carefully separated from the surrounding tissues.

Histopathology revealed a well-defined lesion made up of lobules of mature adipose tissue crossed by thin fibrovascular septa and fibrous connective tissue, with no lipoblasts or atypia noted in the sections studied [Figure 5]. The postoperative period was uneventful, and the youngster was released home on the fourth postoperative day. Follow-up at 3 and 6 months revealed no evidence of recurrence, and the child's limb function and development remained normal [Figure 6].

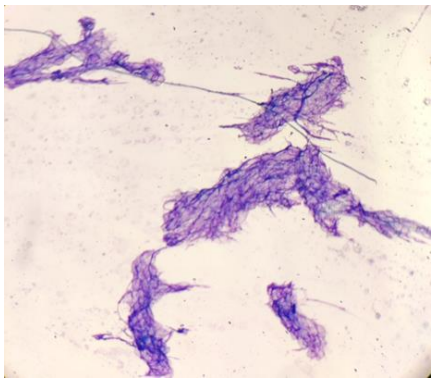

Figure 3: Fine needle smears showing a few mature adipose tissue fragments without atypia [x40, Giemsa stain].

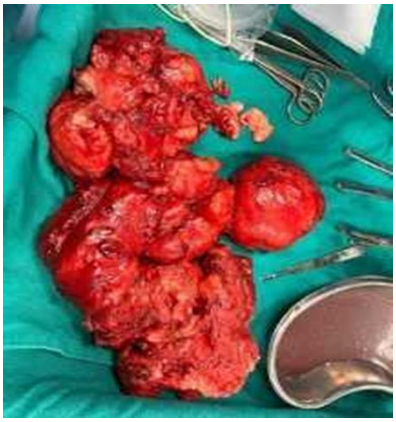

Figure 4: Resected tumour.

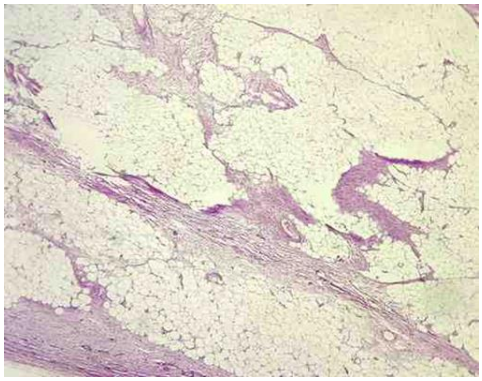

Figure 5: Histopathology section showed circumscribed tumors composed of adipose tissue along with a fibrous component [x40, H&E stain].

Figure 6: Follow-up showed no evidence of recurrence.

Discussion

Lipomatous tumors in children, particularly large ones, are uncommon and can provide diagnostic complications. Imaging modalities such as ultrasonography and MRI are critical for preoperative evaluation. The most effective treatment for benign lipomas is complete surgical removal, and the prognosis is good. Regular follow-up is necessary to detect any signs of recurrence. The WHO categorizes benign lipoma into the following types: classic lipoma, lipomatosis, lipoblastoma or fetal lipoma, spindle cell/pleomorphic lipoma, angiomyolipoma, angiolipoma, hibernoma, myelolipoma, and atypical lipoma [9]. Fibrolipomas are rare lipoma variations that are not classified here. They consist of mature adipose tissue admixed with thick fibrous connective tissue. Giant lipomas must be distinguished from liposarcomas, malignant fibrous histiocytomas, and various benign soft tissue diseases, including epidermoid cysts, deep haemangiomas, and lipoblastomatosis [10]. The first goal of diagnosing big lipomas should be to rule out malignancy. The preferred treatment option should be marginal surgical removal of the tumor and adequate repair of the region [10].

The lipomatous tumors may gradually enlarge, particularly when located in deep tissues, and can lead to a range of clinical symptoms due to compression of surrounding structures [11].

Large ones are uncommon and can provide diagnostic complications. These tumors can slowly grow, especially when situated in deep tissues, potentially causing various clinical symptoms as they compress nearby structures. Imaging modalities such as ultrasonography and MRI are critical for preoperative evaluation. FNAC can help differentiate between benign and malignant tumors. Benign lipomas are ideally treated with complete surgical excision, and the prognosis is good. Regular follow-up is necessary to detect any signs of recurrence. This case report emphasizes the significance of including lipomatous tumors in the differential diagnosis of pediatric soft tissue masses. Early diagnosis and appropriate surgical intervention are critical for optimal therapy and positive outcomes.

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