

A Giant Chest Wall Lipoma in a Thirty-Month-Old Girl: A Case Report and Review of Literature

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ABSTRACT

Lipomas are the most frequent mesenchymal benign soft tissue tumors. Here we report a thirty-month-old girl who presented with giant progressively enlarging mass on the right side of the posterior chest wall for the past one and a half years. An

ultrasonography found a solid neoplasm measuring 29 cm in its major axis. Patient underwent radical surgical excision of the mass and the histology report confirmed the clinical suspicion of lipoma.

Keywords: Lipoma; Chest wall; Benign Neoplasm

INTRODUCTION

Lipomas are the most frequent mesenchymal benign soft tissue tumors, although fat tissue tumors constitute only 6% of soft tissue tumors in children [1]. They may develop at any site and are composed of adipose tissue [1-2]. Lipoma occur more commonly in people between 50 to 70 years of age [2]. In children, lipomas are most commonly located in the trunk region but they have been reported in other locations of the body. Incidence of lipoma varies according to the site and giant lipoma is hardly ever seen over the chest wall, particularly in children, merely reported in case report [1]. Lipomas are most often asymptomatic, well-circumscribed, mobile masses and encapsulated by a capsule [3]. Due to asymptomatic nature of lipomas in most cases, patients generally do not present at an early stage. Here we present a case of a giant, symptomatic lipoma of the chest wall that developed over an eighteen-month period.

CASE REPORT

A thirty-month-old girl was admitted to our hospital suffering from a progressively enlarging, giant, symptomatic mass on the right side of posterior chest wall, with pain, discomfort and inability to sleep in supine position for eight months (Figure 1 A, B). Her past medical history was normal. Laboratory data was within normal limits. Chest radiography revealed a translucent mass in the right hemithorax (Figure 2). Computed tomography (CT) scan of the chest

could not be performed as patient was uncooperative. Ultrasonography demonstrated a solid neoplasm measuring 29 cm in its major axis. The mass indicated a homogeneous fat density without any calcification. According to the radiological findings, the differential diagnoses were those of a lipoma or liposarcoma. No biopsy was carried out and we performed a postero-lateral incision and wide radical excision of the mass. Intra-operatively, we found a huge encapsulated mass which was confirmed not to be infiltrating the regional chest wall tissue, muscles and pleural space. At final pathology, the tumor measured approximately 29 × 12 × 17 cm and weighed 3,250 grams (Figure 3 A, B). The histology showed the absence of increased cellularity and lack of atypical nuclei (Figure 3 C). The final diagnosis of giant chest wall lipoma was made after the pathology report. She was discharged on the fifth postoperative day and patient remained free of any complications or recurrence at 2 years of follow-up.

DISCUSSION

Benign tumors of the chest wall are very rare; nevertheless, lipoma can affect any site of the body at any age [1-2]. In the review of literature, we found only a few reports of these type of tumors and there is no consistent data on the incidence or prevalence of these tumors. Table 1 shows the summary of these reports. The imaging features of benign chest wall tumors are not specific, therefore, a combination of

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Table 1: Comparison of cases with chest wall giant lipomas

Author	Year	Case age (year)/sex	Location	Duration	Symptom	Diagnostic methods	Management	Tumor size (cm)	Tumor weight	Outcome
Aghajanzadeh et al.	2012	2.5/F	Posterior of right hemithorax	18 months	Pain and discomfort	CXR*+US**	Radical excision	29×12×17	3250 gr	No recurrence
Groh O et al. (6)	2012	38/M	Right breast	-	None	MRI	Excision and liposuction	24×20×6	1670 gr	No recurrence
Terzano and Conti (7)	2011	85/F	Left Hemithorax	-	Acute respiratory distress	CXR+CT scan	Therapy with diuretics and antibiotics	-	26 kg	-
Ozpolat et al. (8)	2004	56/F	Right posterior hemithorax	14 years		MRI	Excision	35×20×15		-
Hagmaier et al. (9)	2008	44/F	Thoracic cavity	-	dyspnea and orthopnea	CXR+CT scan	Transverse sternothoracotomy (clamshell incision)	34×28×11	4320 gr	-
Leuzzia et al. (4)	2012	68/M	Chest wall	30 years	None	CT scan	Radical excision	26×16×21	4570 gr	No recurrence
Singal et al. (1)	2012	3/M	Right side of the anterior chest wall in the axillary region	2 years	None	CXR+MRI	Transverse incision	16×11×6	900 gr	No recurrence
Melek et al. (10)	2011	30/M	Thoracotomy incision in right hemithorax	1 year	Painful mass	CXR+CT scan	Thoracotomy incision	15×10×8	-	No complication or recurrence

Figure 1: Preoperative appearance of the giant lipoma**Figure 2:** Chest X-ray of the patient showing the translucent giant mass on the right posterior thoracic cage

Figure 3: A: Intra-operative images of the patient who is positioned with her right lipoma on top. B: Resected tumor. C: Histological features consistent with lipoma.



location of tumors, imaging characteristics and clinical findings are used for diagnosis [4]. In our case, we used chest X-ray; however, CT scan could have provided very useful images for investigating different aspects of the tumor such as composition, location and extension into the surrounding tissues [4]. Instead, we used ultrasonography to determine composition of the tumor. Given the clinical suspicion and typical radiological findings and lack of signs of chest wall invasion, we did not perform a fine core needle aspiration or open biopsy preoperatively and a radical excision was indicated and performed.

Most lipomas do not have any specific symptoms except for small subcutaneous swellings. The severity of symptoms varies according to the size and site of the mass and pressure complications. Symptoms may include pain due to stretching of the adjacent nerves, movement restriction due to location or large size, and cosmetic appearance due to large size of the swelling. The most common sites of lipomas include thigh, shoulder and trunk. However, giant lipomas are infrequently found in children particularly on the chest wall without complications [1]. Pressure on nerves and lymphoedema of the arm and subsequent respiratory discomfort can result from such large tumors [1].

Chest wall lipomas usually occur in obese patients and mostly between the 5th and 7th decades of life [2]. During surgical exploration, we discovered that the mass originated from the fatty tissue under the latissimus dorsi muscle. The term giant lipoma is used when the size of the tumor is greater than 5 cm in any dimension [1]. In our case, the tumor was 29 cm in its major diameter which grew rapidly over the last year, thus falling in the category of giant lipoma. No calcifications were noted despite the large size. Lipoma was thought to be the most probable diagnosis. Surgical excision is the gold standard of its management. However, newer techniques

such as liposuction can also be utilized in some cases [5]. Surgical excision revealed the histopathological diagnosis in addition to ruling out malignancy and postoperative follow-up yielded no complications or recurrence.

CONCLUSION

Giant lipomas may affect patients of any age and sex. These lipomas can be asymptomatic and patient sees a physician when it becomes a giant tumor. Surgical excision is the best therapeutic modality.

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