

Unusual, Giant Epidermoid Cyst in a Child

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Received: August 26, 2024; Accepted: September 13, 2024; Published: September 21, 2024

Abstract

Epidermoid cysts, which are lined by squamous epithelium, can present anywhere in the body and approximately seven percent occur in the head and neck region. These are usually slow growing, are thought to be secondary to trauma, rarely attain giant proportions and conventionally range from 1 cm to 5 cm in dimension. Described is a case of an epidermoid cyst in a child with maximum dimension of 13 cm.

Keywords: *Epidermoid cysts; Congenital dermoid cyst; pediatric population; chest wall*

1. Introduction

The pathogenesis of epidermoid cyst is the implantation of epidermal elements into subcutaneous tissue secondary to injury or surgery, and less commonly, following occlusion of a pilosebaceous unit [1]. Distinction is drawn from dermoid cysts which are congenital and due to ectoderm sequestration at lines of embryological fusion. While both cysts are lined by stratified squamous epithelium only dermoid cysts contain ectodermal elements such as hair, sebaceous or sweat glands [2,3]. In contrast to epidermoid cysts, greater than 80% of paediatric dermoid cysts occur in the head and neck and in the midline, elsewhere.

2. Case Presentation

A 10-year-old male patient, who was otherwise well, was referred to our clinic with a slow-growing mass of the anterior chest which was present for many years. On examination, a cystic, painless, presternal mass measuring 13 × 11 × 5 cm with normal overlying skin was noted (FIG. 1). Chest radiography showed no abnormality of the sternum, and MRI scan revealed a cystic lesion, fluid filled, in the presternal soft tissue. No internal connection to any underline structures were noted (FIG. 2 & 3).



FIG. 1. Frontal view of large presternal mass.

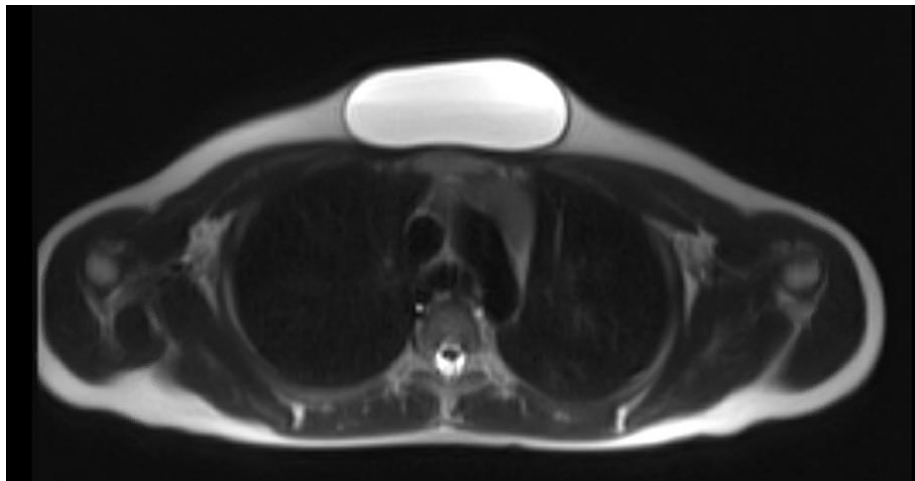


FIG. 2. MRI Scan confirming a unilocular fluid filled lesion in presternal soft tissue with no internal connection.

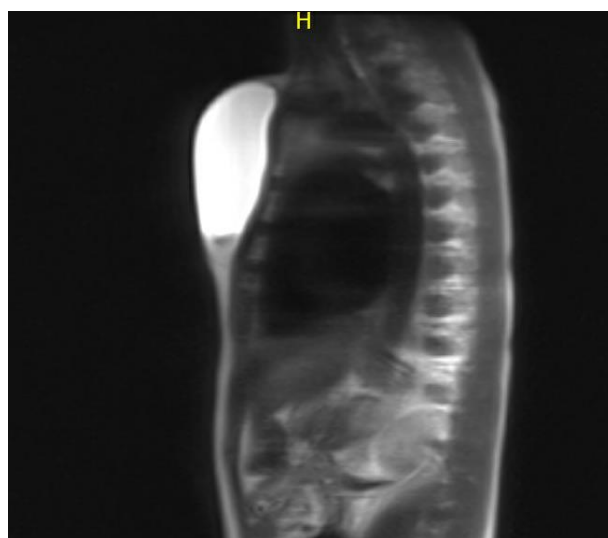


FIG. 3. Mid-sagittal view on MRI demonstrating the vertical extent of the cyst.

The patient underwent surgery on a presumptive diagnosis of this being a benign cyst. A comprehensive resection was performed via a vertical incision, taking an ellipse of skin whilst maintaining integrity of the lesion (FIG. 4 & 5). Macroscopically, the mass had a thin-walled capsule and contained fluid content. Recovery from the surgery was uncomplicated. Histopathologic evaluation confirmed the lesion to be a typical epidermoid cyst.



FIG. 4. Overhead view of surgical excision of lesion with ellipse of skin.

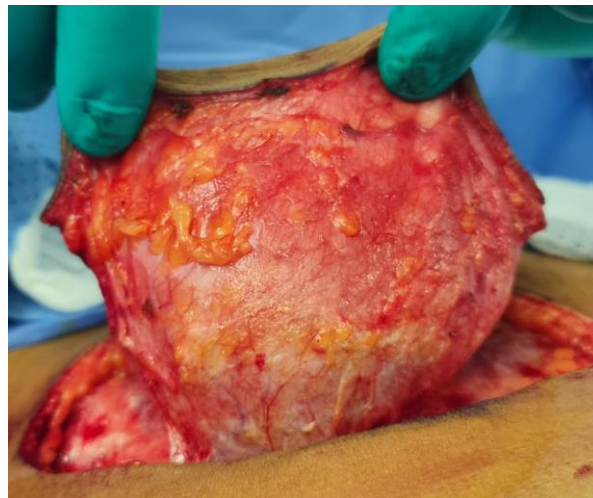


FIG. 5. Lateral view of cyst excision demonstrating deep extent.

3. Discussion

Epidermoid and dermoid cysts are benign lesions of ectodermal origin which are pathologically different entities, although sometimes these may be clinically indistinguishable. Cyst location, mobility, and appearance on Magnetic resonant imaging (MRI) can help differentiate the two. Epidermoid cysts can develop in any part of the body and in contrast to dermoid cysts are

very rare on the head and neck. The lesions are usually solitary and may very occasionally be multiple [3]. Co-occurrence of dermoid and epidermoid cysts is also unusual [4].

Typically, epidermoid cysts are asymptomatic and grow slowly through proliferation of epidermal cells. By virtue of being cutaneous, growth to a large size is rare and presentation is often delayed until the third and fourth decades of life. Therefore, it is not surprising that giant epidermoid cysts have been reported mainly in adults with pediatric cases rarely documented [4-6]. These have been noted in diverse sites including the face, neck, scalp, presternal area, buttocks, penis, and forefoot [7-9]. Occasionally these occur internally within the mediastinum where it is suspected to be congenital [10].

Simple epidermoid cyst is a clinical diagnosis but both ultrasound and MRI scan are useful where greater detail is required [3,9,11]. The former is cheap and accessible, providing information on the dimensions, internal echotexture, vascularity and relationship to contiguous structures. In our case MRI was useful in confirming a unilocular structure and excluding any link to the mediastinum. Additionally, epidermoid cysts have the rare potential for malignant transformation and an MRI scan is invaluable when this is suspected [1,9].

Surgery remains the primary treatment modality for epidermoid cyst. If clinical or radiological findings are suggestive of this, a comprehensive excision is indicated. Failure of complete excision will result in a recurrence. Proper management provides excellent prognosis in such cases. Histopathologic findings consistent with an epidermoid cyst include keratinized and stratified squamous epithelium, eosinophilic content within the wall, and foreign body giant cells [10].

4. Consent

Consent was obtained by all participants in this study.

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