Subcutaneous bronchogenic cyst in the scapular region presenting as an acute abscess

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1. Case report

A three year old boy presented to our emergency department with a painful 3 × 3 cm mass on the posterior aspects of the left shoulder, above the scapular spine. The boy’s father first noticed the lesion that morning, and over the course of the day, it gradually became more painful and started discharging clear fluid. The boy has been otherwise well. His past medical history is unremarkable.

On examination, the patient was afebrile. The mass was fluctuant, and extremely tender to touch. There was associated overlying erythema, and a central head was noted to be discharging serous fluid.

A tentative diagnosis of an abscess was made. The patient was subsequently taken to operating theatre for an excision and drainage, where on incision, a subcutaneous cystic structure was identified. The entire structure was excised in total, including the punctum.

On histology, a cystic space lined with ciliated respiratory-type epithelium was identified. There was an associated inflammatory cell infiltrate. The findings were in keeping with an inflamed subcutaneous bronchogenic cyst (Fig. 1).

The patient was discharged later on the same day. No antibiotics were warranted. The cultures of the cyst ultimately grew normal skin flora.

On review at one year, the wound has healed well, with no reoccurrence of the cyst.

2. Discussion

Bronchogenic cysts are rare congenital anomalies, with a reported prevalence range of 1 in 42,000 to 1 in 68,000 [1]. They arise due to abnormal budding of the primitive tracheobronchial tree during embryologic development [2]. Due to their origins, the vast majority of bronchogenic cysts are located in the mediastinum [1] or intrapulmonary [3]. They are lined with respiratory epithelium, but can also have components such as smooth muscle, cartilage and goblet cells [4]. A minority of bronchogenic cysts are found in more unusual places, with reported locations including the skin, diaphragm [5], pericardium [6] and retroperitoneum [7].

Bronchogenic cysts of the skin are more frequently encountered in boys, with a male:female ratio of 4:1 [4]. The vast majority of cases occur in early childhood [4]. The exact mechanism of development of these lesions is unclear, but proposed theories include inappropriate migration of the respiratory epithelium to the skin;
metaplasia of the skin’s squamous epithelium to respiratory epithelium, and primary heterotopic differentiation [2].

Cutaneous and subcutaneous bronchogenic cysts have reportedly been found in the suprasternal notch, pre-sternal area, neck, scapular [1] and even peri-anal areas [8]. The scapular region is extremely rare, with only 17 cases reported so far in the literature [1,2,9,10]. In most cases, the presenting complaint is a superficial mass that is asymptomatic or slowly growing. Acutely inflamed scapular bronchogenic cysts have been reported [2,9,10]; however, these are usually long-standing lesions which subsequently become infected. To our knowledge, our case is the first case where a scapular bronchogenic cyst was first brought to light because of the acute inflammation.

Complete surgical excision of these cysts is recommended [4] to allow histological confirmation of the diagnosis, and to prevent secondary infections [4] and malignant transformations [4,11].

In conclusion, although rare, the possibility of a bronchogenic cyst should be considered in any children (especially boys) who present with a superficial swelling in the scapular region.

**Conflict of interest**

None identified.

**References**


**Fig. 1.** Microscopic findings of an inflamed subcutaneous bronchogenic cyst. Original magnification 100×. Ciliated columnar epithelium lines the cyst. Mixed inflammatory cell infiltrate in the subepithelial stroma.