Case report - Congenital

Huge cervico-thoracic thymic cyst

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Abstract

We present a case of a 6 year-old boy who presented with a huge mass in the right side of the neck and changes its size with respiration and with straining. Computed tomography of the chest and neck showed a huge mass that was thought to be cystic hygroma. It was excised by both median sternotomy and a right cervical incision. Pathology revealed a thymic cyst.

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1. Introduction

Thymic cysts are either acquired or congenital lesions of the thymic tissues. They are found along the lines of thymic descent from the angle of the mandible to the body of the sternum due to anomalous development of the thymopharyngeal duct or sometimes it is connected to the pyriform fossa by an internal sinus [1].

2. Case report

A 6 year-old boy with cerebral palsy was admitted in our center complaining of dyspnoea grade II and neck swelling. On admission, physical examination revealed decreased breath sounds on his right chest. Cardiac examination was negative for murmurs or extra heart sounds. Heart rate was 110 beats/minute. Arterial blood pressure was 110/70 mmHg and temperature was 37°C. Laboratory studies were normal. The chest X-ray showed a right upper zone mass. Computed tomography (CT) chest (Fig. 1) showed a cyst of a $3 \times 4.2 \times 11$ cm. It was a well-defined non-enhancing cystic mass in the superior mediastinum compressing and displacing the right thyroid lobe and trachea to the left. It was noted to be extending superiorly to the posterior triangle of the neck, on the right sternomastoid muscle anterolaterally and carotid sheath posteriorly.

The mass also insinuated inferiorly behind the sternum downwards to the level of the main pulmonary artery.

The tumor was approached through a median sternotomy incision. The two lobes of the thymus were enlarged with no invasion or infiltration of the surroundings. A huge cyst was seen to be attached to the right lobe of the thymus gland. It was dissected gradually and smoothly. The upper end of the cyst was not accessible through the sternotomy, so, a right cervical incision was made to meet the upper end of the sternotomy. Very smooth, gradual and meticulous dissection of the cyst was done. The upper end of the cyst was attached to the angle of the mandible and base of the skull. It was in close relation to the great vessels of the neck. It was removed intact. It was 22 cm long (Fig. 2). It was full of a yellowish opalescent fluid from which a sample for culture and sensitivity was taken and revealed no bacterial growth.

Both incisions were closed. The boy had a smooth post-operative course. He was discharged 1 week after operation. Pathological examination revealed a thymic cyst.

3. Discussion

The pathology that causes enlargement of the thymus includes thymic cyst, hyperplasia, neonatal thymic haemorrhage and thymic neoplasms [2].

Thymic cysts are due to anomalous development of the thypharyngeal duct and sometimes it is connected to the pyriform fossa by an internal sinus. They are usually soft, non-tender and lie at the anterior border of the sternomastoid.
muscle opposite to the upper edge of the thyroid cartilage. It must be differentiated from the cystic hygroma and the branchial cleft cysts [3]. At surgery, it is a multiloculated cystic structure containing a yellowish opalescent fluid. Histopathologically, the cyst is lined by a flattened cuboidal epithelium and Hassal’s corpuscles. Ewing et al. 1940 mentioned four types of congenital thymic cysts; the epithelial, dermoid, Hassal’s corpuscles and the cystic lymphangioma [3].

Congenital thymic cysts represent less than 1% of the anterosuperior mediastinal masses with no malignant potential [4,5].

CT chest is highly impressive when it shows a homogenous mass of low attenuation value with an indistinct capsule in contrast to the bronchogenic cyst which has a high attenuation value [6].

The treatment of thymic cyst is controversial. Some authors prefer excision of all thymic cysts to establish the diagnosis. Others prefer just follow up. If echinococcus granulosus could be ruled out, a percutaneous fine needle aspiration under CT guidance. If, however, cystic hygroma or malignancy could not be ruled out, excision is a must [7].

References