Anterior Mediastinal Mass in a Child—Known but Rare Entity

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Abstract

Thymomas are exceedingly rare tumours of the anterior mediastinum in children. An early awareness helps timely surgical intervention. Thymomas can occasionally be extremely aggressive. The loss of contour on chest X-Ray, to be confirmed as a large anterior mediastinal mass at computerised tomography, serves identification of a typical bilobed thymic tumour.

Keywords Mediastinal mass · Thymoma · Anterior mediastinum · Paediatric tumours

Thymomas are exceedingly rare tumours of the anterior mediastinum in children. Although one-third of anterior mediastinal masses in adults are thymomas, they represent less than 1% of mediastinal tumours in a paediatric population. An early awareness helps timely surgical intervention [1]. The usual presentation includes pressure effects on the superior vena cava or respiratory symptoms. Association with myasthenia gravis is rare [2]. We report a 5-year-old child, who presented with respiratory symptoms and an anterior mediastinal mass on imaging. The loss of contour on chest X-Ray (Fig. 1) is confirmed to be due to a large anterior mediastinal mass at computerised tomography (CT scan), typical of a bilobed thymic tumour (Fig. 2). Core needle biopsy, from supraclavicular approach, proved this to be thymoma before complete surgical removal. Surgery was performed through median sternotomy, and the postoperative histology (Fig. 3) after removal confirmed this to be limited within the capsule, with a pathological stage being WHO stage B2 and a

Fig. 1 Chest X-ray showing ‘Silhouette’ sign is positive on the right border of the heart suggesting the mass is abutting the heart. The left border of the heart shows a mass with the hilar vessels seen through the mass, suggesting that the mass is anterior to them

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Fig. 2 Axial computerised tomographic scan (images 1 and 2: at D5 and D6 levels of mediastinum) showing a bilobed anterior mediastinal mass with clear plane in front of pericardium, suggesting thymic in origin

Fig. 3 High power photomicrograph of histology (10× with H&E stain) showing features of thymoma, composed of a network of small- to medium-sized epithelioid cells with eosinophilic cytoplasm. Most have round pale nuclei, but in some areas, the nuclei are larger and more vesicular

clinical stage IIA. Thymomas can occasionally be extremely aggressive, and it is known that male sex and age less than 10 years can be associated with advanced tumours, and may thus serve as prognostic factors [2].

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

References

1. Spigland N, Di Lorenzo M, Youssef S, Russo P, Brandt M (1990) Malignant thymoma in children: a 20-year review. *J Pediatr Surg* 25(11):1143–1146
2. Liang X, Lovell MA, Capocelli KE, Albano EA, Birch S, Keating AK, Graham DK (2010) Thymoma in children: report of 2 cases and review of the literature. *Pediatr Dev Path* 13(3):202–208. <https://doi.org/10.2350/09-07-0672-OA.1>