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Tumour in a 14 year old girl

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The patient, a 14 yr old girl, is the fifth child of a German family with nine children. Ten years previously both parents were infected with tubercle bacteria by their grandmother. At that time, our patient showed signs of primary tuberculosis (chest X-ray) and was treated with combined chemotherapy from 1981–1983. Chest X-ray films up to 1987 remained without pathological findings, except for post-tuberculosis hilar calcification.

In February 1991, the patient fell ill with fever, cough and pleuritic pain in her right thoracic wall. Her general practitioner noticed a diminished respiratory sound. A chest radiograph at that time showed a pleural exudate on the right side, as well as a marked round pericardial shadow (fig. 1).

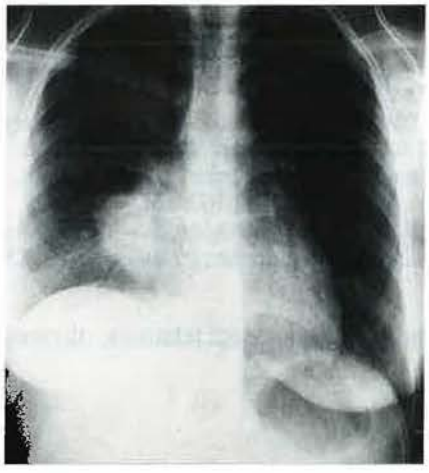

Fig. 1. – Chest radiograph on admission.

On suspicion of pneumonia, treatment with oral antibiotics was started. A strong positive intradermal test (18 mm) with one tuberculin unit purified protein derivative (TU PPD) was noted. Because of this, and the positive family history, she was admitted to our department under suspicion of tuberculosis-relapse. Meanwhile, the fever had decreased.

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We performed a pleural puncture, which yielded 400 ml of an opaque exudate, containing about 50% lymphocytes. Bacteriological investigations, including those for tuberculosis, remained without growth of any microorganism. No malignant cells could be detected. Leucocyte count, differential count, C-reactive protein and erythrocyte sedimentation rate were normal at that time. Despite having removed the effusion, the shadow on the chest X-ray persisted.

An ultrasonic investigation showed a round cystic lesion of about 5 cm in diameter, with an inhomogeneous echo structure. A computed tomography of the chest gave no further information. A nuclear magnetic renonance scan with contrast media showed a cystic inhomogeneous compartmented lesion of the anterior mediastinum.

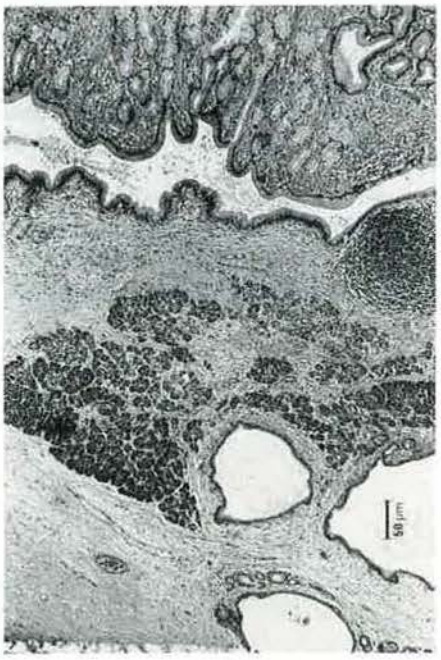

Fig. 2. – Histological cut from extirpated tumour. (Bar= 50 µm).

Needle-biopsy revealed an opaque fluid but did not assist diagnosis. Bronchoscopy showed no pathological findings, especially no bronchial stenoses. A thoracotomy was performed and a tumour was removed.

TURN PAGE FOR INTERPRETATION OF THE BIOPSY AND FOR DIAGNOSIS

Intraoperatively there was the typical picture of a persisting thymus in terms of configuration and vascular supply. The tumour was located in the lower right thymus lobe. The tumour could be completely resected with the right mediastinal pleura, there was no infiltration into the lung. It weighed 150 g.

The histological work-up showed structures of bronchi, salivary glands, embryonic gut and mesoderma (haematoxylin and eosin (HE)-staining) (fig. 2).

Diagnosis: benign cystic thymus teratoma

Our patient recovered quickly and no postoperative complications were noted. A chest radiograph three months later was virtually normal.

Discussion

The history of tuberculosis and the strongly positive intradermal tuberculin test of our 14 yr old girl made diagnosis difficult, because tuberculosis was first suspected. However, there were no positive results concerning cultures from sputum (achieved during bronchoscopy), pleural effusion or intraoperative swab and no typical X-ray correlate. We interpreted the pleural effusion as an unspecific phenomenon. The strongly positive intradermal test suggested tuberculosis superinfection and led us to treat her with exacerbation prophylaxis.

Final diagnosis, confirmed by the pathologist, was expressed as benign cystic teratoma of the thymus. Because the last chest radiograph in 1987 - 4 yrs previously - was completely normal, the tumour must have grown within this time. The same phenomenon has been described for teratoid tumours of the mediastinum [1].

Thymus teratoma seems to be extremely rare, because a search of the literature revealed only one other case of a child with the entity of a teratoma within a cystic thymus lesion [2]. Teratomas of other mediastinal location [3–7], or cystic lesions of the thymus other than teratoma [3], are found more often: at least 21 cases are described of teratoma associated with thymus tissue found intrapulmonarily [8–10].

Eighty percent of all mediastinal teratomas are reported to be benign [4, 5]. Our patient also showed no sign of malignancy, either clinically or histologically.

Our 14 yr old patient might be one of the very rare cases of a benign teratoma with thymus tissue in *loco typico.*

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