CASE REPORT

Asymptomatic posterior mediastinal teratoma diagnosed incidentally

Riddhi Jaiswal,¹ Poonam Rani,¹ Vijayant Devenraj²¹Department of Pathology, King George's Medical University, Lucknow, Uttar Pradesh, India²Department of Cardiothoracic and Vascular Surgery, King George's Medical University, Lucknow, Uttar Pradesh, India**Correspondence to**

Dr Riddhi Jaiswal, riddhiadvay@gmail.com

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SUMMARY

We present a young patient with occasional chest pain and an incidentally found posterior mediastinal mass on radiology which was confirmed as mature teratoma on histopathology. The gross specimen received in the department of pathology was globular measuring 9.0×7.0×5.5 cm and varying in consistency from soft cystic to firm. Cut surface showed numerous hair entangled in pultaceous material. Representative sections were taken and stained with H&E stain. Histopathology revealed haphazardly distributed mature derivatives of all the three germ layers comprising of epidermis, pilo sebaceous units, nerve bundles (ectodermal), cartilage, bone, salivary gland clusters, blood vessels, muscle bundles, fibrous tissue infiltrated by foreign body giant cells, lymphoid follicles (mesodermal) and pseudostratified columnar epithelium (mesodermal), thus establishing the diagnosis of mature teratoma.

BACKGROUND

Teratomas are common in anterior mediastinum.¹

In posterior mediastinum teratomas are very rare and only comprise 3–8% of all mediastinal tumours and out of these only 36% present asymptotically.^{2,3}

CASE PRESENTATION

A 28-year-old man was apparently asymptomatic before he came for his medical checkup. He, however, complained of on and off mild pain in chest over right side for past 1–2 years on repetitive questioning.

While applying for a UAE visa 2 months ago for work, he was subjected to a medical checkup, where he was diagnosed with a mediastinal mass on the chest X-ray. He was referred to the Cardiothoracic Vascular Surgery Department of KGMU where the surgery was performed after CT scan and the specimen sent to the Pathology Department, KGMU, Lucknow, for its histopathological examination.

INVESTIGATIONS

On chest X-ray a rounded opacity was found which turned out to be a right posterior mediastinal hypodense lesion with areas of calcification, fat and a ball-like structure (suggesting hair) on CT scanning (figures 1–3).

The gross and microscopic findings were as described above.

Figure 1 Gross specimen showing multiple white hair, pultaceous debris, cyst wall and few solid areas.

DIFFERENTIAL DIAGNOSIS

- ▶ Teratomas/other germ cell tumours with malignant component (no immature or atypical element found in this case).
- ▶ Foregut cysts (ectopic elements should be absent which are present in this case).

TREATMENT

Surgical excision of the mass.

Figure 2 Photomicrograph showing mature cartilage, part of bone, fibrocollagenous tissue, nerve fibres, single hair follicle, mucus secreting glands and entrapped adipose tissue.

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Figure 3 CT scan showing calcification, hair ball and fat in right posterior mediastinum.

OUTCOME AND FOLLOW-UP

The patient is relieved of the occasional chest pain and has reapplied for his visa.

DISCUSSION

Mediastinal germ cell tumours tend to occur in particular subregions (superior, anterior, middle and posterior) according to their histology, and tumour location is considered to be an important differentiating criterion.¹

Teratomas are classified as germ cell tumours that are composed of ectopic tissue derived from either two or all the three germ layers, including mature or immature components. These tumours tend to be diagnosed by chance during chest imaging; when symptoms are present. They may be due to compression, invasion of intrathoracic structures or associated to other syndromes.⁴

We present a case of a patient with a rare mature teratoma arising in the posterior mediastinum.

Sho *et al*² reported a case of an otherwise healthy 18-year-old boy with mature cystic teratoma in the posterior mediastinum in 2009 in the *Canadian Journal of Surgery*.

Two cases of posterior mediastinal teratoma were found in Japanese journals *Kyobu Geka* in 2008 and *Nihon Kokyuki Gakkai Zaoshu* in 2009.^{5 6}

According to Karl and Drunn,⁷ posterior mediastinal teratomas are rarely seen in pediatric age groups.

Learning points

- ▶ Teratoma should be considered as a differential diagnosis in posterior mediastinal tumours.
- ▶ Although asymptomatic, they should be surgically removed on radiological suspicion, as they may pose a threat later.
- ▶ Histopathological differentiation of malignant/immature and mature elements of teratomas is critical.

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Competing interests None.

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