

Intermittent suprasternal herniation of the thymus in a child

A 4-year-old boy presented with a sudden onset of suprasternal neck mass, visible only when he cried or laughed. His parents denied recent trauma or infectious diseases. No pain, respiratory distress or dysphagia was reported. His medical history was unremarkable. He was well-appearing, with normal vital signs. At rest, laterocervical lymph nodes and subcutaneous emphysema were not evident. No mass was visible (figure 1A). During Valsalva manoeuvre, a mass in the midline of the anterior neck was observed. It was parenchymatous in consistency, not painful and with normal overlying skin (figure 1B). A flexible nasopharyngoscopy examination was normal.

An ultrasound of the neck showed herniation of the thymus from the mediastinum to the suprasternal neck region during Valsalva manoeuvre (figure 1C,D). No abnormalities of the neck vessels or thyroid were observed. He underwent regular clinical and ultrasonography follow-up.

This is an extremely rare cause of a neck mass in children.¹ It is probably due to laxity of the connective tissue around the thymus, thus permitting its herniation to the neck with increased intrathoracic pressure.² Diagnosis can be made with ultrasound, but occasionally CT scan or MRI is necessary to assess the extent of the mass.³

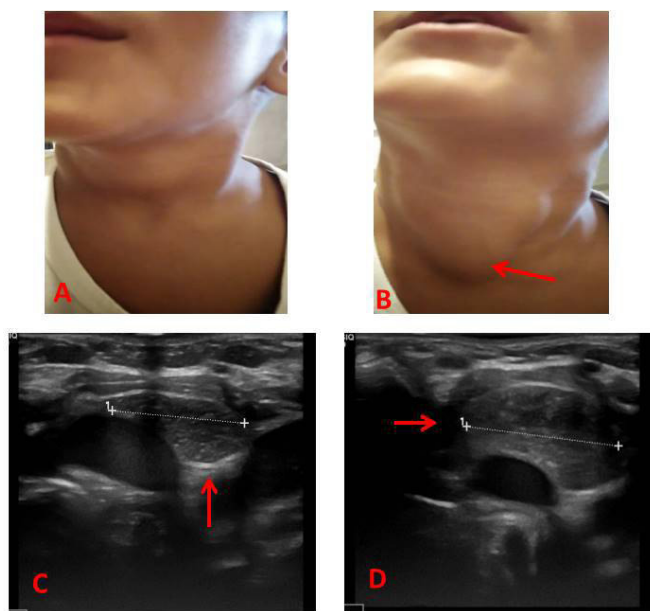


Figure 1 Clinical images of the patient at rest (A) and during Valsalva manoeuvre (B) showing appearance of suprasternal swelling (red arrow). Ultrasonographic images showing normal thymus (red arrow) at rest (C) and its herniation to the lower neck (red arrow) during Valsalva manoeuvre (D).

As the thymus progressively involutes from puberty, the management of this condition is conservative.⁴

Although rare, we highlight this condition to enable prompt diagnosis, to avoid unnecessary procedures and to alleviate parental fear.

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REFERENCES

- 1 Stuut M, van Zwieten G, Straetmans JM, *et al.* The inflatable thymus herniation of the normal mediastinal thymus: a case report and review of the literature. *Int J Pediatr Otorhinolaryngol* 2016;**83**:74–7.
- 2 Tey K-J, Goh B-S, Mohd-Zaki F. Intermittent Suprasternal neck mass caused by herniation of ectopic thymus: report of two cases. *Iran J Otorhinolaryngol* 2020;**32**:391–5.
- 3 Senel S, Erkek N, Karacan C, *et al.* Superior herniation of mediastinal thymus as a neck mass in children during Valsalva maneuver. *Am J Surg* 2008;**196**:799.
- 4 Su SC, Hess T, Whybourne A, *et al.* Intermittent midline suprasternal neck mass caused by superior herniation of the thymus. *J Paediatr Child Health* 2015;**51**:344–6.