Case	(648) Mediastinic venous malformation of rapid growth
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CASE PRESENTATION

A twelve-year-old boy is taken to the emergency department with precordial chest pain for two days, which gets worse with movement, coughing and breathing. It has increased during the last 24 hours with associated fever.

The family provides a thoracic radiograph and a thoracic CT describing an anterior mediastinal mass with calcifications suggestive of teratoma. Owing to his clinical deterioration, a new radiograph is obtained which shows an evident enlargement of the mass.

Then an US is performed which demonstrates a mediastinal mass with multiple anechoic or hypoechoic structures of different sizes, some of them tubular and confluent, suggestive of venous lakes with inner calcifications consistent with phleboliths and echogenic content, in relation with thrombi. Doppler US shows lacking venous flow with monophasic low-velocity waveforms .

To confirm the suspicion of venous vascular malformation (VM), a thoracic CT angiogram is performed with arterial and delayed venous phase adquisitions, which shows a huge mass located in the upper-anterior-left mediastinum with multiple inner vascular structures, tubular-like, that come together in an enlarged caliber left brachiocephalic trunk, the same as the superior and inferior vena cava. In a delayed phase, the contrast agent remains in the venous lakes and the cystic component is more evident.

Due to the fast and serious growth, an urgent thoracic aortogram is performed that confirms eminently venous vascularisation and the lesion is embolized resulting in the total occlusion of vessels with later surgery for resection.

DISCUSSION

VMs are included in the ISSVA clasification for vascular malformations and they are the most common ones in children.

They are usually located in the skin and mucous membranes and rare in mediastinum They content cavities and tubular structures (dilated veins) with blood which swell during Valsalva maneuver.

The low and slow flow dispose to thrombosis. The presence of phleboliths is a finding very specific for diagnosis.Although VMs can be assymptomatic, 50% of them are presented with cough, pain or dyspnea. The treatment can be conservative, sclerotherapy and/or surgery.

CONCLUSION

Mediastinum is a rare location for VMs. Ultrasonography is very useful for the assessment of flow features, phleboliths and for planning additional imaging studies.

The treatment is usually conservative except in cases like the one reported, where the anatomical location, the pain and the fast growth required urgent embolization with following resection.

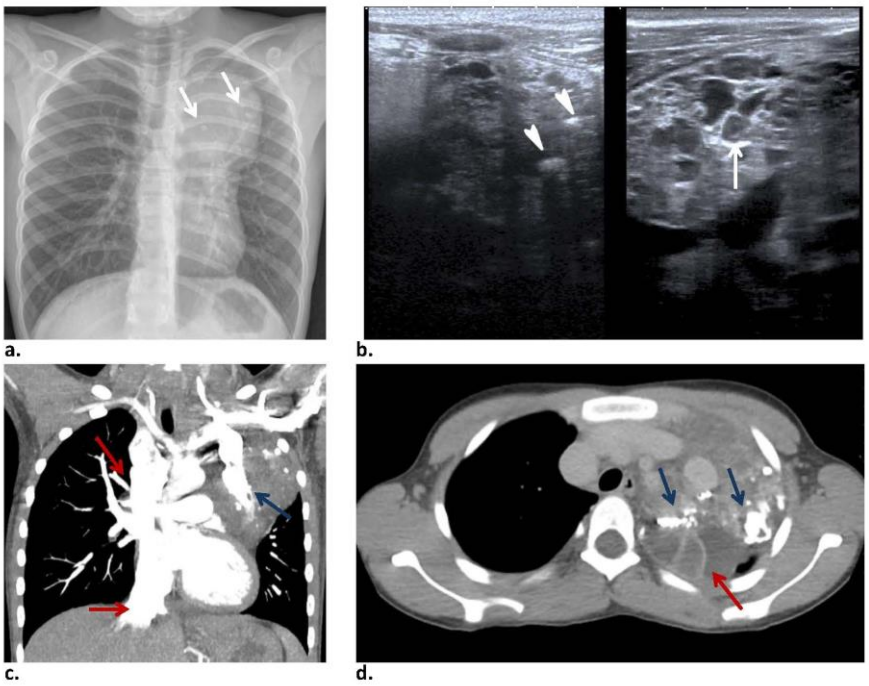

Figure 1. (a) PA thoracic radiography shows an anterior mediastinal mass with calcifications (arrows). **(b)** US shows venous lakes , some of them with inner content (arrow) and phleboliths (arrowheads). **(c)** Coronal CT angiogram reveals vascular structures that come together in a large common trunk (blue arrow) which drains into the left brachiocephalic trunk whose caliber is enlarged, the same as superior and inferior vena cava (red arrows). **(d)** Axial CT in delayed venous phase shows retained contrast within the cavities (blue arrows) and cystic component (red arrow).

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