Reminder of important clinical lesson

Breathlessness and new de-saturation in a patient with congenital heart disease: a time to thrombolysse or to seek specialist help?

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Summary

A patient with known repaired complex congenital heart disease was referred as an emergency with increasing breathlessness on exertion. He was not short of breath at rest and had a saturation of 85% in air. A CT pulmonary angiography demonstrated decreased flow from his right ventricle to pulmonary artery, which was thought to be due to pulmonary embolism. We reviewed the CT with a knowledge and understanding of his anatomy and found that he had developed a false aneurysm of his right ventricular outflow tract, which required surgical treatment.

BACKGROUND

It is important to understand the anatomy and physiology of congenital heart disease when assessing patients and that interpreting the imaging of these patients can be very difficult.

CASE PRESENTATION

This patient noticed that he was increasingly short of breath on exercise, with a decreased exercise capacity.

INVESTIGATIONS

He had a CT pulmonary angiography that was originally reported as demonstrating reduced flow across the right ventricular outflow tract (RVOT) to pulmonary artery (PA) conduit due to a large thrombus (figure 1).

DIFFERENTIAL DIAGNOSIS

The differential diagnosis was a pulmonary embolus.

TREATMENT

Prior to seeking specialist advice, he was due to be thrombolysed, but when it was realised that the reduced flow in his RVOT to PA conduit was due to external compression from a false aneurysm, he underwent surgical repair (figure 2).

OUTCOME AND FOLLOW-UP

He had a successful resection of his false aneurysm and then went on to have a percutaneous pulmonary valve inserted.

Figure 1 Axial CT scan with contrast demonstrating thrombus(*) in false aneurysm with calcification of pulmonary homograft.

Figure 2 Sagittal CT scan with contrast demonstrating thrombus(*) in false aneurysm causing compression of the right ventricular outflow tract.

DISCUSSION

There have been no similar cases published.

Learning points

- ▶ In order to make a diagnosis in patients with congenital heart disease it is important to understand anatomy and physiology.
- ▶ One must interpret imaging in light of clinical findings, as a patient with saturations of 85% and a large pulmonary embolism would be haemodynamically compromised.
- ▶ Complex congenital heart disease patients should be discussed with specialist centres.

Competing interests None.

Patient consent Obtained.

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