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Pulmonary puzzle

ANSWER

From the question on page 580

The MRI shows cor triatriatum (fig 1). This is a rare congenital abnormality accounting for 0.1% of all congenital cardiac malformations.¹ It is caused by a failure of common pulmonary vein resorption during cardiogenesis. This leads to persistence of a diaphragm-like membrane dividing the left atrium. Communication between the chambers is via one or more orifices. The size of this communication determines the degree of obstruction to pulmonary venous return. Elevation in pulmonary venous pressure and pulmonary vascular resistance may cause pulmonary hypertension (PHT).² As in this case, echocardiography may not reveal the left atrial membrane.

Normal pregnancy is characterised by a 45–50% increase in blood volume and cardiac output and a reduction in vascular resistance.³ In pulmonary arterial hypertension (PAH), which is an important cause of PHT, the stiff pulmonary circulation cannot accommodate the increased blood flow, which may cause the right ventricle to fail. A dilated right ventricle can, in turn, reduce left heart filling and hence lead to low cardiac output heart failure.⁴

Published case reports of PHT in pregnancy reveal that the maternal mortality rate is between 30% and 56% depending on the aetiology, although the true mortality may be higher. Fetal/neonatal mortality is 10–12%. Most women die in the postpartum period of treatment-resistant right heart failure.⁵

It is vital to establish the aetiology of PHT and not assume that all causes are related to PAH. In cases such as these, specific PAH therapies are unhelpful and may even be contraindicated.

Cardiac MRI may be particularly useful in pregnancy as it does not expose the mother or fetus to radiation and can help determine the aetiology and severity of the haemodynamic changes.⁶

Our patient had a forceps delivery under combined spinal/epidural anaesthesia at 36 weeks gestation. She did not require any specific therapy for her PHT during pregnancy or

Figure 1 MRI showing cor triatriatum. AC, antechamber; LA, left atrium; LV, left ventricle; RA, right atrium; RV, right ventricle.

postpartum. She has declined de-roofing surgery to correct the cor triatriatum. Mother and baby are doing well.

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