Thrombosed prosthetic valve in a 32-week pregnant 20-year-old woman

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A 20-year-old pregnant woman presented with a three-day history of syncope, dyspnea and chest pain. An ATS aortic valve replacement (ATS Medical Inc, USA) had been carried out six years earlier for congenital aortic regurgitation. During pregnancy, she had not complied with either warfarin or low-molecular-weight heparin therapy.

Echocardiography showed left ventricular hypertrophy, a markedly reduced aortic valve opening and an annular thrombus (Figure 1). Doppler velocity was 8 m/s, a 240 mmHg pressure gradient, which is the highest velocity ever recorded in our experience of approximately 100,000 echocardiograms (Figure 2).

The patient collapsed shortly after examination with hemoptysis and pulmonary edema. She underwent an emergency repeat aortic valve replacement. There was an extensive organized thrombus around the valve (Figure 3), and a fresh thrombus within the left ventricular outflow tract. The fetus did not survive the procedure, although the mother's recovery was uncomplicated.

It is known that in women with severe aortic stenosis, pregnancy can lead to a sudden clinical deterioration, so it is not recommended (1). There are no published reports of successful deliveries in women with thrombosed artificial valves. Pulmonary edema, syncope and presyncope are all associated with a high risk of maternal death (2).

Figure 1) Parasternal long-axis view of the heart (arrow indicates thrombus). Ao Aorta; LA Left atrium; LV Left ventricle

Figure 2) Doppler through the aortic valve

Figure 3) Pathology specimen of aortic valve

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