Ascending aorta thrombosis in a HeartWare® left ventricular assist device recipient

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A 62-year old patient underwent HeartWare® left ventricular assist device implantation for ischaemic cardiomyopathy as a bridge to transplantation. Thrombus formation in the left Valsalva sinus (Figs 1 and 2 and Supplementary Video S1 and Video S2) associated with embolic events (massive left ventricle infarction and stroke) necessitated urgent heart transplantation.

Figure 1: Computed tomography (CT) image of the aortic thrombus. One month after the left ventricular assist device implantation, the patient underwent in situ right middle cerebral artery fibrinolysis for embolic stroke. Cardiac echography showed the absence of any intracardiac thrombus. Five days later, multiples episodes of ventricular fibrillation occurred. Aortic angiography and echocardiography showed a complete thrombosis of the left Valsalva sinus, which was resistant to medical treatment. CT examination confirmed the presence of the thrombus.

Figure 2: Morphopathological view of the thrombus on the explanted heart after transplantation (showing a left main coronary trunk thrombosis). The patient was transplanted emergently, but died a few days later from multiorgan failure.

Supplementary material (Videos 1 and 2) is available at EJCTS online.

Video 1: Aortic angiography and computed tomography view of the aortic thrombus.

Video 2: Perioperative view of HeartWare® implantation and morpho-pathological aspects of the explanted heart.