Sequential three-dimensional live transoesophageal echocardiography examinations showing progressive dissolution of thrombi on prosthetic mitral valve

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Thrombosis on the atrial side of mitral prosthetic valves is commonly visualized by two-dimensional transoesophageal echocardiography. Novel real-time three-dimensional transoesophageal echocardiography (3D RT TEE) offers a unique opportunity to visualize the atrial side of prostheses with an unprecedented high-quality image resolution thus allowing a comprehensive assessment of number, size, and site of thrombi.

A 40-year-old female with mitral prosthesis was examined at the time of a cardiogenic stroke and 1 and 3 months after an aggressive oral anticoagulation therapy.

The value of sequential assessment of thrombus regression by 3D RT TEE is shown in the Figure. The first 3D RT TEE examination showed four isolated thrombus formations, three large and one small thrombus, two on the slit-like central orifice of the prosthesis, one on each leaflet (Panels A and B). A second 3D RT TEE showed two thrombi on the left side of the prosthesis attached on the prosthetic ring (Panels C and D). Finally, the third 3D RT TEE showed only a strip-like formation attached on the left side of the prosthetic ring (Panels E and F) with a near complete dissolution of thrombi.

3D RT TEE examination offers unique images of prosthesis ‘en face’ from an atrial view. Sequential 3D RT TEE examinations allow a comprehensive evaluation of number, site, and size of thrombi and their evolution.