

Acute valve malfunction with thrombosed bioprosthetic valve after surgical aortic valve replacement

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AUTHOR CONTRIBUTIONS

Masaaki Koide and Takuya Maeda involved in review and editing.

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CONFLICT OF INTEREST STATEMENT

The authors report no conflict of interest.

DATA AVAILABILITY STATEMENT

None

CONSENT STATEMENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

CASE PRESENTATION

A 74-year-old man with chest pain was diagnosed with Stanford A acute aortic dissection and severe aortic regurgitation. Aortic valve replacement with a 21mm INSPIRIS (Edwards Lifesciences, Irvine, CA, USA) and ascending aortic replacement with 26mm J Graft (Japan Lifeline, Tokyo) was performed. Anticoagulation therapy using heparin and warfarin was started immediately. Postoperative Computed tomography(CT) revealed thrombus formation to all leaflets of the implanted valve(Figure1) and echocardiography revealed restricted leaflet motion, so surgical thrombectomy was performed. Abundant fresh thrombi adhered to all leaflets of the bioprosthetic valve, and those thrombi were carefully removed (Figure2). No damage or

macroscopic degeneration on the leaflets were seen, so the implanted valve was preserved. We initiated argatroban for 1 week, followed by aspirin and warfarin and postoperative CT showed no sign of thrombus. (Figure 3).

We previously reported leaflet and coronary stent thrombosis after TAVR², but acute bioprosthetic valve thrombosis after SAVR is extremely rare.¹

Reference

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Figure legends

Figure1: Computed tomography(CT) shows thrombi in all leaflets

Figure2: All thrombi were removed completely

Figure3: Postoperative CT shows no thrombus in bioprosthetic aortic valve

Key Clinical Message

Acute valve thrombosis after bioprosthetic aortic valve replacement even under appropriate anticoagulation therapy is extremely rare. Cardiac CT is a powerful imaging tool to detect valve thrombosis after both TAVR and SAVR.





