

 VALVULAR DISEASE

Leaflet thrombosis after AVR

Aortic valve replacement (AVR) is the only effective treatment for aortic stenosis. A new study presented at ACC.17 and published in *The Lancet* shows that subclinical leaflet thrombosis is common following AVR, but more so after transcatheter AVR (TAVR) than surgical AVR (SAVR). Anticoagulation therapy — but not dual antiplatelet therapy — can prevent or treat this complication.

Chakravarty *et al.* analysed (in a masked fashion) observational data from two single-centre registries (RESOLVE and SAVORY) of patients undergoing TAVR or SAVR. Subclinical leaflet thrombosis was determined on the basis of reduced leaflet motion on high-resolution CT imaging.

Of the 890 patients with interpretable CT scans, 12% had subclinical leaflet thrombosis. This finding is clinically relevant; the researchers showed that the condition was associated with an increased risk of nonprocedural stroke and transient ischaemic attack. Importantly, the frequency of subclinical leaflet thrombosis was lower with SAVR (4%) than with TAVR (13%), and TAVR was found to be independently associated with subclinical leaflet thrombosis risk.

Interestingly, subclinical leaflet thrombosis was more common in patients receiving dual antiplatelet therapy (15%) — the standard of care — compared with anticoagulants (4%); no significant difference between novel oral anticoagulants and warfarin was observed. The condition resolved in all patients receiving anticoagulation therapy, but persisted in most patients not receiving anticoagulants.

These findings suggest that prevention and treatment of subclinical leaflet thrombosis might further improve TAVR outcomes, and that the current recommendations to use dual antiplatelet therapy following AVR might require revision. However, prospective, randomized, controlled clinical trials are needed to test this hypothesis and to assess whether routine anticoagulation for all patients undergoing AVR outweighs adverse effects, such as increased bleeding.

Liesbet Lieben, Senior Editor
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ORIGINAL ARTICLE Chakravarty, T. *et al.* Subclinical leaflet thrombosis in surgical and transcatheter bioprosthetic aortic valves: an observational study. *Lancet* [http://dx.doi.org/10.1016/S0140-6736\(17\)30757-2](http://dx.doi.org/10.1016/S0140-6736(17)30757-2) (2017)