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Editorial

Transcatheter Mitral Valve Replacement. What do we know and what do we not know?

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In the present volume of this journal Hemant Chaturvedi and Ravinder Singh Rao report an extremely interesting case of post-transcatheter mitral valve replacement prosthetic thrombosis. The authors draw attention to the little information on the incidence of this complication in this scenario, highlight the importance of performing TEE in patients with high TTE gradients and discuss the need for the use of anticoagulation associated with anti-thrombotic therapy despite the increasing bleeding risk [1].

In the last two decades we have witnessed a revolution in the treatment of valvular diseases with the use of thranscatheter prosthetic valve implantation in high-risk or inoperable patients initially, for the treatment of aortic stenosis and more recently, for the treatment of mitral valve dysfunction both in the native valve and in biological valve.

Like biological surgical type valves, transcatheter implanted valves still preserve the risk of thrombosis and embolic events. The use of oral anticoagulation or antiplatelet therapy are the most widely used options after the implantation of this type of valves. Unfortunately, the latter remain recommended based on empirical or not widely validated evidence [2]. It is also unclear which antiplatelet regimens or which oral anticoagulants (vitamin K antagonists or DOAC) should be used? and for how long?

In an article published in 2021, by Kikoïne et al. where the predictors and clinical impact of transcatheter heart valve thrombosis (THV) in patients undergoing transcatheter mitral valve implantation (TMVI) were evaluated, the authors observed THV in 16 (12.3%) patients: Most of these thrombosis were subclinical (93.7%) and non-obstructive (87.5%). After optimisation of antithrombotic treatment, THV resolved in all but one patient In this study predictors for THV were shock for immediate thrombosis, male sex for early and absence of anticoagulation for both early and late THV thrombosis. The authors concluded that an anticoagulation therapy for at least three months after the procedure is mandatory [3].

Another important aspect to highlight is the treatment of THV thrombosis. Three therapeutic options exist: 1-To initiate or adapt the oral anticoagulant therapy according to the INR; 2-thrombolysis or 3 surgical treatment.

In a prospective trial of anticoagulation with warfarin (target international normalised ratio 2 to 3) in patients with suspected bioprosthetic valve thrombosis published by Egbe., *et al*. The authors found that this strategy reduced valve gradients in 83% of the cohort within a median time of 11 weeks. There were no thromboembolic events [4].

The options for patients who are non-responders to anticoagulation or patients who are haemodynamically unstable at presentation are valve surgery or fibrinolysis. There are sparse data on the optimal strategy as most of the literature is limited to case reports/series. However, the decision-making process to decide between surgery and fibrinolysis is similar to those for patients with mechanical valve thrombosis [5].

We are of the opinion that, as with thrombosis of mechanical prostheses, thrombolysis should be the first-line treatment in these patients [6].

Conclusion

Transcatheter heart valve thrombosis in the mitral position cause increased valve gradients, valve dysfunction, and symptoms, and may be associated with lack of anticoagulation. Anticoagulation with a vitamin K antagonist should be considered in all patients undergoing transcatheter mitral valve replacement at least for three months. Thrombolytic therapy appears to be an excellent therapeutic option in patients with THV thrombosis in mitral position who are non-responders to optimized anticoagulation therapy. However, we still have a lot to learn in this área.

Conflicts of Interest

None declared.

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Bibliography

1. Hemant Chaturvedi and Ravinder Singh Rao. ""Mushroom Thrombus" a Unique Post Transcatheter Mitral Valve Replacement (Valve in Valve) Early Complication. The Role of Echocardiography". *EC Cardiology* 8.4 (2021): 43-45.
2. Sorrentino S., *et al*. "Antithrombotic Treatment after Transcatheter Heart Valves Implant". *Seminars in Thrombosis and Hemostasis* 44.1 (2018): 38-45.
3. Kikoïne J., *et al*. "Predictors and clinical impact of thrombosis after transcatheter mitral valve implantation using balloon-expandable bioprostheses". *EuroIntervention* 16.17 (2021): 1455-1462.
4. Egbe AC., *et al*. "Outcomes of Warfarin therapy for bioprosthetic valve thrombosis of surgically implanted valves: a prospective study". *JACC: Cardiovascular Intervention* 10.4 (2017): 379-387.
5. Lim WY., *et al*. "Mechanical and surgical bioprosthetic valve thrombosis". *Heart* 103.24 (2017): 1934-1941.
6. Cáceres-Lóriga FM and Morais H. "Thrombotic obstruction in left-side prosthetic valves: Role of thrombolytic therapy". *Indian Heart Journal* 67.2 (2015): S10-S12.

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