



Letter to the Editor

Bioprosthetic pulmonary valve thrombosis

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Dear Editor,

Excellent outcomes of pulmonary valve conduit implantation have been achieved in patients lacking a pulmonary valve or the right ventricular outflow tract [1]. However, implanted pulmonary valve conduits are subject to progressive degeneration over time [2]. Jewgenow et al. reported ubiquitous subclinical thrombi formation at the base of valve cusps in bioprosthetic pulmonary conduits, and speculated that such subclinical thrombus formation is the most probable cause for the high incidence of endocarditis [3].

Jewgenow et al. reported on a cohort of 47 explanted bioprosthetic pulmonary valves, detecting the accumulation of thrombotic material at the base of the semilunar valve sinus to varying extents in 44/47 (93%) specimens. These findings were substantiated via histology and immunohistochemistry, using native pulmonary valves from German domestic pigs as controls. However the authors did not discuss the immunological competence and preservation time of the bioprosthetic pulmonary valves prior to surgery. We have analyzed three homografts preserved at -70°C for one year by histology and immunohistochemistry, and have detected

evidence of suspicious chronic inflammation with granulocyte infiltration at the cusp base. Immunological competence is one of the risk factors for xenograft failure, and as such determining the preoperative preservation time and postoperative immunological competence are important. The authors should therefore consider these two factors as they may influence their ultimate findings.

Additionally given the risks of chronic anticoagulation administration, it is unclear as to whether all patients be offered such therapy, or whether patient selection should be guided by CT imaging [4]. In addition, it remains unclear as to whether antiplatelet agents are preferred or and whether they are as effective as warfarin.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ijcard.2019.06.023>.

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