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authors[4] have reported significant increased transfusion rate after Perceval S implantation relative to other prosthetic valves, but without differences in terms of major cardiovascular events, whereas other authors[5] have reported no deleterious effects associated with the transient thrombocytopenia. On the basis of these recent results, the question of Vendramin and Bortolotti[1] would be correct.

Michael DeBakey[6] said, "The natural history of science is the study of the unknown. If you fear it, you're not going to study it and you're not going to make any progress." If we were to apply this concept to the Perceval-associated thrombocytopenia, great efforts must be made to fully understand this phenomenon because some potentially deleterious effects are reported in the literature and not fully explained. Having said that, we share the rhetorical question of Vendramin and Bortolotti,[1] but we also find that we deeply share DeBakey's sentiment. There are no studies focusing on the cellular, molecular, and biologic aspects of transient thrombocytopenia after Perceval S implantation. Such studies should be encouraged for better understanding of the biologic mechanism that would enable some useful changes in the device and in clinical practice. Because Steigmart and colleagues[3] compared the pericardial Perceval S valve with 2 other porcine prosthetic valves, Vendramin and Bortolotti[1] speculated that the pericardium itself might unintentionally cause thrombocytopenia. It is right to highlight this hypothesis. Several studies have compared the pericardial FSS or Perceval S with other pericardial prosthetic valves, and transient thrombocytopenia has been reported with significant statistical differences between the 2 models of biologic pericardial prosthesis.

We agree that we should not be so concerned about thrombocytopenia after Perceval S implantation, because it is now established that it does not carry major cardiovascular events. According to the principle that the absence of evidence is not the evidence of absence, however, we cannot overlook this phenomenon, and further large randomized clinical trials and biologic studies should be strongly encouraged. Otherwise, we are "not going to make any progress," as DeBakey[6] said.

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REPLY FROM AUTHORS: THROMBOCYTOPENIA AFTER IMPLANTATION OF A PERCEVAL S AORTIC BIOPROSTHESIS SHOULD BE STUDIED MORE VIGOROUSLY, NOT LESS:

Reply to the Editor:

We thank Vendramin and Bortolotti[1] for commenting on our article "Thrombocytopenia After Implantation of the Perceval S Aortic Bioprosthesis."[2] They criticize the retrospective nature of our study and wonder whether the thrombocytopenia after aortic valve implantation need be studied at all, given the many studies that have stated that postoperative thrombocytopenia is a common phenomenon with no apparent clinical consequences.

We do understand the critique regarding the retrospective design. When we started our investigation, however, there was not a single report linking the Perceval S aortic bioprosthesis (LivaNova PLC, London, UK) with postoperative thrombocytopenia. Because we had already stopped implantation of the Perceval S aortic bioprosthesis for other reasons at that time, we had no opportunity to do a prospective study. Unfortunately, we were not very fast in gathering the data, analyzing it, and submitting a manuscript.

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Meanwhile, several studies had documented postoperative thrombocytopenia after Perceval S implantation.[3-8]

These studies, like our own, suggest that the thrombocytopenia after implantation of the Perceval S aortic bioprosthesis is more pronounced than the thrombocytopenia that is commonly found after aortic valve implantation with other bioprostheses. We therefore believe that these conditions should not be mixed, as Vendramin and Bortolotti[1] seem to do. We further believe that the existing studies—including our own—that describe the phenomenon of a pronounced postoperative thrombocytopenia after implantation of the Perceval S bioprosthesis are too small to detect small differences with respect to clinical outcomes. Vendramin and Bortolotti[1] are right that there is little evidence of a significant detrimental effect, but we cannot exclude a small one. We believe that even if we are not able to identify the reason for the pronounced thrombocytopenia after implantation of the Perceval S, we need to ascertain that it has no detrimental effect at all. Because the Perceval S is used relatively often in some departments, more meaningful outcome data regarding blood loss, transfusion requirements, and rethoracotomy rates might be generated relatively easily and compared with those associated with other bioprostheses. We therefore still stand with our conclusion that the observed "thrombocytopenia should be taken seriously, and other surgeons are encouraged to look in their data whether…there are clinical consequences associated with it."

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"POSSUM, SED NOLO" (I COULD, BUT I DON'T WANT TO)

To the Editor:

We read with great interest the article "Mimicking mother nature: the Valsalva graft" by De Paulis and colleagues[1] in this issue of the *Journal*. The specific features of this graft are obvious and have advantages with regard to Bentall procedures, especially in large aortic root diameters, as the coronary buttons do not need to be extensively mobilized. The authors emphasize the importance of precise surgical technique when performing valve-sparing procedures with this graft. In particular, proper positioning of the tip of the commissures at the level of the neosinotubular junction are well described. However, this is only possible when all 3 commissures are of the same height, which is not always the case. This shortcoming has been overcome by the use of another graft incorporating 3 anatomically shaped sinuses (Uni-Graft W SINUS; BBraun, Melsungen, Germany).[2]

Both grafts and modifications of the original reimplantation technique (ie, David V procedure) seem to be able to accomplish or at least closely approximate normal anatomic-shaped aortic root geometry. Using these graft options, opening and closing characteristics of the aortic valve cusps are more physiological than straight grafts.[3] However, beneficial hemodynamic characteristics of grafts mimicking aortic root anatomy have not been translated into improved long-term clinical results of the reimplantation technique, as demonstrated by Dr David, who has used a straight graft for the reimplantation technique with excellent outcomes over many years.[4] Therefore, anatomically shaped grafts do not seem to have a clear clinical benefit compared with straight grafts. Such grafts may "look better" on imaging, but by using them, we are far away from being able to fully mimic Mother Nature.

Aortic valve function is a complicated and sophisticated interaction of the different components of the aortic root[5] incorporating highly differentiated anatomic structures,[6]