



## Innovative method for standardization of valve sparing aortic root surgery

*Kapak koruyucu aort kök cerrahisinin standardizasyonunda yenilikçi yöntem*

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In this current article by Elibol A.,<sup>[1]</sup> the author demonstrates a promising novel device for technical standardization of valve-sparing aortic root reimplantation (David Procedure) in patients undergoing surgery for aortic root aneurysms and aortic insufficiency. Although currently the most commonly used surgical technique for the repair of aortic root aneurysms is the Bentall procedure, en-bloc removal of the aortic root and the aortic valve is associated with severe complications such as prosthetic valve deterioration/failure, thrombosis, infection and/or anticoagulation related bleeding after the surgical procedure.<sup>[2]</sup> Therefore, preserving the aortic valve and remodeling the aortic root by David procedure have gained an increasing interest to avoid such complications in this group of patients.<sup>[3]</sup>

The David procedure was first described in 1992 and demonstrated very low in-hospital mortality (1%) and excellent 20-year survival (72%) and freedom from reoperation rates (96%).<sup>[4]</sup> On the other hand, it is well known that David operation is a very complex surgical intervention which requires increased myocardial ischemic times compared to the Bentall procedure.<sup>[2]</sup> As a result, it is recommended that surgeons should not attempt the David procedure until they have gathered a significant experience in the elective setting. Therefore, the requirement of these patient-specific anatomical measurements of the aortic root and valve, such as appropriate graft size, commissure and effective height, which are very difficult to estimate, arise as a discouraging factor in front of the less experienced cardiac surgeons. Thus, designing a device to make standard and accurate

measurements of the anatomical features of the aortic root and leaflet geometry becomes crucially important for the success of the David procedure, even in less experienced hands.

This novel device developed by Dr. Elibol would facilitate and standardize the aortic root and valve measurements in high precision and accuracy that has an utmost importance for the success of the David procedure. The standardization of the measurements independent of the surgeon's subjective assessments would increase the success of the restoration of the aortic root and valve geometry, even in less experienced hands. The user-friendliness and cost-effectiveness of this device are the other advantages which makes it easily affordable for its routine use in David procedures. With some minor modifications, its application can be also extended to surgeries involving larger aortic annulus or bicuspid valve scenarios.

It was my pleasure and privilege to witness and contribute to Dr. Elibol's preliminary studies in developing this device during his brief tenure at the Texas A&M University, College Station, Texas. I feel very proud and lucky to make acquaintance of this young surgeon and inventor as a colleague, friend, and compatriot. I am sure his ongoing/upcoming studies would further provide him recognition and prestige in the international device innovation field.

Dear Editor, please accept my humble appreciation and respect for allowing me to write an "Editorial Comment" to this important and promising device.

Yours sincerely.

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