Bio-Valsalva or Bio-Integral: Which biological aortic valved conduit has a better hemodynamic performance?

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The aortic valved prosthesis is a reliable solution to repair the aneurysm in aortic root and ascending aorta with involved aortic valve. The introduction of biological valved conduits brought important benefits to a large group of patients suffering from the anticoagulation therapy. Two of the most commonly used pre-sewn stentless biological conduits are BioValsa™ and BioIntegral BioConduit™. As a result of the lack of comparative studies between the different biological valved conduits, there was a need to review the midterm haemodynamic performance of these two conduits. Between July 2008 and June 2014, a total of 55 patients underwent aortic root replacement using a Bio-Valsalva conduit (n=27) or a Bio-Integral conduit (n=28). The median echocardiographic follow-up for the Bio-Valsalva group was 44.0 months compared with 8.4 months for the Bio-Integral group. The echocardiographic follow-up for the Bio-Integral group was shorter because of the later introduction of Bio-Integral prosthesis to the market. It was hypothesized that, the Bio-Integral prosthesis with no sewing ring will provide benefits to the in valve haemodynamics; however, these potential benefits were not observed when compared with the Bio-Valsalva prosthesis in our echocardiographic follow-up. The effective orifice area in the Bio-Valsalva group was 1.85 cm² compared with 1.80 cm² in the Bio-Integral group (p=0.24). The mean pressure gradient in the Bio-Valsalva group was 11.0 mm Hg compared with 11.5 in the Bio-Integral group (p=0.82). In conclusion, we did not observe a significant difference in the outcome between the two biological valved conduits, and both of them had excellent outcomes.

Biography
Ayman Raweh is a Surgeon in Heart Center Dortmund in Germany and studied Medicine between 2000 and 2006 then continued to specialize in Cardiac Surgery. His research focus includes aortic diseases and aortic surgery since 2010 and currently minimal invasive mitral valve repair. He is a member of several national and international Cardiac Surgery Associations including the European Association for Cardio-Thoracic Surgery (EACTS) in Europe, the Society of Thoracic Surgeons (STS) in USA and the German Society of Cardiothoracic Surgery (DGTHG) in Germany.

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