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13.15 **Why is the Portico valve the valve of choice for patients with aortic stenosis?**

Augusto Pichard

13.30 **The value of predilatation** Oscar Mendiz

13.45 **Complete cerebral protection during TAVI using Triguard** Azeem Latib

Questions &amp; Answers

Adjunctive Technologies

Room Club

Chairmen: Yaron Almagor, Ron Waksman

12.45 **Preliminary clinical results with the new Sirolimus Drug Coated Balloon**

Bernardo Cortese

13.00 **PiCSO to reduce infarct size and improve functional recovery after STEMI**

Mohaned Egred

13.15 **The coronary sinus Reducer. A device based therapy for refractory angina**

Francesco Giannini

13.30 **Angioscupt®X drug coated PTCA scoring balloon: findings from pre-clinical and clinical experience** Robert Byrne

13.45 **Protected PCI: Hemodynamic support for complete revascularization during the most complex interventions** Alaide Chieffo

Questions &amp; Answers

Main Hall Washington

Chairman: Jeffrey W. Moses

Co-chairman: Roxana Mehran

14.30 **LIVE CASES FROM BONN, GERMANY**

University Hospital

Commentators: Alexandre Abizaid, Eustachio Agricola, Paolo Denti, Omer Goktekin, Patrizia Presbitero

Operators: Eberhard Grube, Georg Nickenig, Nikos Werner, Jan Malte Sinning, Armin Welz, Fritz Mellert, Wolfgang Schiller, Robert Schueler

Guest operators: Paul Hsien-Li Kao, Marco Wainstein

On-line factoids relevant to the cases presented: Francesco Giannini (Coordinator), Marco Ancona, Luciano Candilio, Akihito Tanaka

15.45 **DEBATE Bioresorbable scaffolds is a real need?**

Pro: Gregg W. Stone

Con: Robert Byrne

16.15 **Coffee break**16.45 **LIVE CASES FROM NEW YORK, USA**

Columbia University - NYP Hospital

Commentators: Mauro Carlino, Patrizia Presbitero, Bernhard Reimers, Horst Sievert, Goran Stankovic, Alan Yeung

Operators: Dimitrios Karpaliotis, Ajay Kirtane

On-line factoids relevant to the cases presented: Francesco Giannini (Coordinator), Marco Ancona, Luciano Candilio, Akihito Tanaka

18.30 **Evening Symposium**

Room Manzoni

**Glad I put Stentys on the shelf. The role of self-apposing stents in everyday practice. A case-based symposium**

Chairman: Gennaro Sardella

18.30 **Session objectives and device overview** Gennaro Sardella

18.40 **Case Presentation: self apposing stent in Left Main** Robert J. Van Geuns

18.50 **Case Presentation: self apposing stents in Ectatic vessels** Francesco Prati

19.00 **Case Presentation: self apposing stents in CTO** Daniel Weilenmann

Questions &amp; Answers

**What have we learnt (takeaways and conclusion)** Gennaro Sardella

**A cocktail will be offered at the end of the Symposium**

Mitral Porta Friday 12:45-14:15

# Saturn device could ring-in mitral valve evolution

Continuing this afternoon's dedicated Mitral session will be Paolo Denti (San Raffaele University Hospital, Milan, Italy), who will introduce the Saturn Prosthetic System (InnovHeart S.r.l, Italy), specifically designed to address the clinical needs of the diseased mitral valve (MV).

"The feasibility of transcatheter mitral valve implantation in native valves has been only recently reported in high-risk patients," Dr Denti told *JIM Today*. "When percutaneous mitral replacement technologies become clinically available, it will be even more difficult to identify the ideal therapy for the individual patient."

Dr Denti went on to note that valves that have been implanted thus far in the native mitral position are mainly delivered through the transapical route. He added that mitral replacement may offer some theoretical advantages, as well as reproducibility and applicability majority of patients, with a high predictability and less technically-demanding procedure. In addition, he stressed that in the future, transcatheter mitral repair and replacement will probably have a complementary role rather than competitive.

Leading on to the Saturn Prosthetic System, Dr Denti commented: "It essentially consists of an annular structure, intended to surround the native mitral valve close to the ventricular face of the annulus, and a central element supporting the set of prosthetic leaflets. The central element is released inside the orifice of the mitral valve and expands up to be limited and constrained by the annular structure. This arrangement achieves the result of entrapping and secure the mitral leaflets within the prosthetic device.

"This feature that makes the design of the Saturn Prosthesis really unique in comparison to other similar technologies. The mechanical continuity between the central body and the annular structure which is created immediately before the final implant. Indeed, the annular structure, which is actually split into two symmetrical segments, is positioned behind the mitral leaflets separately and independently. However, the two segments are physically reconnected to the central body when the latter is introduced in the left ventricle, crimped inside a delivery system. So, at the time of the final delivery, the Saturn Prosthesis is indeed a single device."

Noting the advantages of a two-segment design, Dr Denti first underlined its user-friendly nature, with operators being able to circumvent any worry about mutual alignment of the two portions. Also, it allows more effective control of the positioning of the prosthesis, since any action

applied to the central body, through the delivery system, is transferred to the annular structure as well.

"Also, this arrangement prevents any unintended migration of the prosthesis in the atrium during the implant procedure as well as during the normal functioning, as a solid component in mechanical continuity with the rest of the prosthesis is trapped behind the mitral leaflet," he continued. "As a secondary but not marginal benefit, one of the connecting arms between central body and annular structure acts as a trap for the anterior mitral leaflet, preventing any risk of SAM."

Moving on to describe the implantation steps for the device, Dr Denti listed three key stages.

"At first, a pair of guidewires are introduced in the left ventricle, through a specific delivery tool, to surround the mitral leaflets at a level immediately below the annulus. Each guidewire embraces a commissural area. This is an echo-guided procedure which doesn't interfere with the physiological functioning of the native valve.

"For the second step, one half-ring segment, consisting of half of the annular structure, is advanced over each guidewire and up to the sub-annular position. In the third step, the central valved body, previously engaged over the same guidewires, is introduced in the left ventricle, crimped inside a low-profile delivery system. By tensioning the guidewires, the two half-ring segments are mechanically reconnected to the central body, providing a physical continuity among these components of the prosthesis, and recreating the annular structure. Once the unity of the prosthesis is recovered, the annular structure is pressed up to seat against the annulus, to get the optimal positioning, and the central valved body is released inside the orifice, in order to clamp the mitral leaflets."

With preclinical testing for the Saturn device planned to be completed in the coming months, a first-in-human study with the transapical version will be the next goal. In parallel, InnovHeart is working on developing a transeptal version of Saturn, given awareness of the importance of further reducing the invasiveness of the implantation access.

Summing up the Saturn device, Dr Denti concluded: "The Saturn Prosthetic System can be seen as a promising synthesis between the two supposedly distant worlds of cardiac surgery and interventional cardiology. Indeed, it provides the reshaping and restraining of the native mitral annulus, but respectful of the anatomy of the landing zone, typical of a surgical prosthetic device .... In the light of the complexity of the physiopathology of the mitral valve, it seems a proper approach."



Paolo Denti