

AN INTERVIEW WITH...

Marco Barbanti, MD

Dr. Barbanti discusses the background of the FAST-TAVI study, MitraClip implantation, and addressing CAD in patients undergoing TAVI.



What novel transcatheter aortic valve implantation (TAVI) devices or new-generation features are you excited about? What else would you like to see refined? What do you think the devices will look like 10 years from now?

The most important feature of a transcatheter aortic valve of the future is the predictability of implantation and the potential to have free and easy access to the coronaries with the prosthesis in place no matter the type of deployment (balloon-expandable, self-expanding, or mechanically expandable), or the possibility to recapture the valve before complete release. Current devices are already performing quite well, but they need to be further improved. Also, the delivery catheter profile must be further reduced to increase the proportion of patients eligible for the transfemoral approach and to reduce vascular complications.

Can you give us some background on the why the FAST-TAVI study was initiated? How did you become involved in the study, and what factors influenced its design?

The FAST-TAVI study is an observational, prospective trial performed at 10 sites in Italy, the Netherlands, and the United Kingdom that was designed to assess the feasibility and safety of early discharge after transfemoral TAVI in a real-world, all-comers population with severe aortic stenosis. The reason for investigating the safety of early discharge after TAVI stems from a desire to not only minimize unnecessary use of medical resources, but also to accelerate the patient's recovery and mobilization after the procedure. In Catania, Italy, we introduced the concept of an optimized and minimalist approach to TAVI in 2007. In 2012, I joined John Webb and colleagues at St. Paul's Hospital in Vancouver, Canada, who have been working on simplified TAVI pathways for a few years in North America. Along with representatives of a valve company (Edwards Lifesciences), we thought to bring this experience to the European environment.

Are there any overall impressions about your experience in FAST-TAVI that you can share with us ahead of your presentation of the initial data at PCR London Valves in September?

Although the data are still confidential, I can tell you that results are really impressive and have the potential to change postprocedural care of TAVI patients. The trial and data will be presented at a Late Breaking Trials session at PCR London Valves 2018.

How long is the intended follow-up period of these patients?

Primary endpoints of the study are the incidence of all-cause mortality, stroke, permanent pacemaker implantation, major vascular complications, bleeding, and rehospitalization at 30 days. Patients will be followed for at least 1 year.

In a recent editorial,¹ you mentioned "bumblebee" paradox in TAVI. Can you explain this phenomenon?

This metaphor refers to the Acurate Neo transcatheter aortic valve (Boston Scientific Corporation). Although it is not recapturable, has no external cuff or skirt, and is still implanted through a relatively large profile, this transcatheter valve is associated with excellent acute and midterm outcomes that are comparable and, in certain cases, even superior to other competitors. This scenario reminded me of the story of the bumblebee that was deemed unable to fly, according to 1800s mathematical calculations.

What are your specific criteria for patient selection when you opt to perform percutaneous coronary intervention (PCI) for coronary artery disease (CAD) and TAVI for aortic stenosis in a single treatment session? What are the benefits of this approach?

In the case of CAD in a patient undergoing TAVI, the treatment strategy and completeness of revascularization is determined based on coronary anatomy. Usually, only severe coronary lesions subtending a large area of myocardium (stenoses of > 50% in the left main and stenoses of

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> 70% in the proximal epicardial arteries or large branches) are treated with PCI. Unless PCI is very complex and requires large amounts of contrast, this can be safely performed before valve implantation in a single treatment session.² On the contrary, chronic total occlusions, very distal lesions, and coronary stenoses on small vessels (< 2.5 mm) are left untreated. This strategy may change when TAVI starts to be offered in younger patients.

What aspects of newer-generation TAVI devices can assist in improving outcomes in bicuspid valves? What still needs to be improved?

More than a new valve design, we need to better understand how to size a bicuspid valve.

Based on the recent data on the causes and predictors of rehospitalization after MitraClip (Abbott Vascular) implantation,³ what advice would you offer to implanting physicians about optimizing outcomes?

Today, the results of MitraClip procedures in patients with functional mitral regurgitation (in terms of mortality, rehospitalization, and recurrence of severe mitral regurgitation) are highly affected by the late referral to invasive

treatment. The most important efforts should be made in referring patients at an earlier stage.

Aside from your clinical caseload, what aspects of your career in interventional cardiology do you most enjoy?

I love teaching and learning from peers and fellows. Also, research activity is a great part of my workload. ■

1. Barbanti M, Todaro D. Midterm outcomes with the self-expanding ACURATE Neo aortic bioprosthesis: the "bumblebee paradox" in TAVR [published online June 22, 2018]. *JACC Cardiovasc Interv.*
2. Barbanti M, Todaro D, Costa G, et al. Optimized screening of coronary artery disease with invasive coronary angiography and ad hoc percutaneous coronary intervention during transcatheter aortic valve replacement. *Circ Cardiovasc Interv.* 2017;10: e005234.
3. Grasso C, Popolo Rubbio A, Capodanno D, et al. Incidence, timing, causes and predictors of early and late re-hospitalization in patients who underwent percutaneous mitral valve repair with the MitraClip system. *Am J Cardiol.* 2018;121:1253-1259.

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