

State-of-the-art in the treatment of aortic valve regurgitation in young patients

Edwards Satellite Symposium at the 2022 EACTS Annual Meeting

The first Edwards Lifesciences lunch symposium focused on treating aortic valve regurgitation in patients under 65 years old. It is well-known that aortic valve regurgitation management is challenging in these younger patients, especially as patients are living longer and require more durable valves without lifestyle restrictions or blood thinning medications. Nevertheless, valve management in this younger population becomes even more challenging when there is a disconnect between the guidelines and patients' wishes. Therefore, this lunch symposium addressed a range of factors to consider such as individualizing patient care, the importance of early referral and thorough anatomical assessment, and how current research efforts can help guide the decision-making process in the future.

To begin, **Torsten Doenst** reminded the audience why treating valve disorders is so important. He focused on the importance of prolonging the patient's life, but also increasing their remaining quality of life. Then, Dr. Doenst briefly stated what is new regarding aortic regurgitation management in this population according to the 2021 guidelines compared to the 2017 guidelines. He stressed the importance of not only informing patients but determining how patients are receiving their information so that the Heart Team could effectively communicate all the benefits and risks of different surgical options to facilitate the decision-making process. To conclude, some of his personal recommendations for effective patient communication were shared with the audience.

Not only is effective communication key to disease management, but the importance of early patient referral cannot go unnoticed. To elaborate on this, **Ruggero De Paulis** provided a quick epidemiological review of aortic regurgitation and explained how it develops as a slow and insidious process. He noted that compared to bicuspid aortic valve stenosis, aortic regurgitation usually presents at a relatively young age, thereby making the durability and long-term outcomes of surgical interventions extremely important to consider. Since aortic regurgitation can manifest in younger patients, the importance of early referral for aortic valve regurgitation management was stressed. In support of early referral, he explained how delayed referral can negatively impact surgical outcomes and survival. Furthermore, Dr. De Paulis mentioned that not only is early referral paramount, but a thorough and appropriate anatomical assessment (not only for the valve, but also for the aortic root) is extremely important in order to plan the treatment options, surgical strategy, or both.

Before a surgical strategy can be established, a decision must be made regarding valve repair or valve replacement. To help answer this, **Thomas Senage** first reviewed the available replacement options, covering both mechanical and biological options. After glancing over the well-known advantages and disadvantages of both valve types regarding the quality of life and the clinical surgical outcomes, his focus shifted to the Ross procedure. He showed the advantages of the Ross procedure regarding the long-term outcomes, but he also mentioned how such a complex operation is best performed in expert centers and that it may not be possible in high-risk patients with concomitant diseases. After reviewing the aforementioned options, his focus shifted to aortic valve repair and the AVIATOR registry. After



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explaining how not all aortic valves are repairable, the presentation circled back to valve repair, specifically using the most recent generation of bioprostheses. Dr. Senage reminded the audience that although long-term data is currently lacking on these newest valves, recent research efforts have begun to fill that void. For instance, he specifically spoke about the INDURE registry and how its results will likely be used to help guide future guidelines and treatment options for aortic regurgitation.

Circling back to the importance of anatomical assessment during patient referral, bicuspid aortic valves can be indicative of aortic regurgitation, as **Dimitri Kalavrouziotis** explained. He mentioned that since bicuspid aortic valves often present themselves in younger patients, bioprosthetic valves are likely an attractive choice since they do not require anticoagulant medication and newer technologies may increase the long-term durability of those valves. Early data on the INSPIRIS RESILIA aortic valve in a cohort of young bicuspid aortic valve patients indicate that it has excellent hemodynamics and durability, which compares favorably with the well-established performance of the Magna Ease valve. These findings encourage continued investigation of the INSPIRIS RESILIA valve over the long-run.

In summary, although aortic regurgitation is a serious valve-related illness, early referral, effective communication, and long-term research on new valve technologies in this younger patient group may help decrease the burden of aortic regurgitation in the future.

No clinical data are available that evaluate the long-term impact of RESILIA tissue in patients.

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