

MVT Aortic: April 7-8, 2022

Hybrid via Geneva & Edwards Masters

Summary & Highlights, Sessions 1-3

Thursday, April 7, 2022

Summary

Following a hybrid format, the first day of the course included **8** speakers from **5** countries who gave **14** presentations and took part in **4** panel discussions. An audience of **22** in Geneva was accompanied by over **500** online connections.

Collectively, the speakers touched on the importance of not only understanding the basics of aortic valve guidelines, but that the Heart Team should adapt and navigate within those guidelines as they evolve in different countries around the world. Additionally, a wide array of aortic valve surgical approaches was debated, and fast-track recovery strategies were explained. Lastly, aortic valve durability was described in relation to tissue innovation, the biomechanical aspects of biological valves, and the health economics of biological valves and mechanical valves.

Highlights

Session 1

Chasing the guidelines

To start the course, **Friedhelm Beyersdorf** kicked-off Session 1 by summarizing the updates of the 2021 aortic valve stenosis guidelines (compared to the 2017 guidelines). Specifically, he highlighted that there are several gaps between the guidelines and clinical evidence when it comes to patient management. He also noted that we need to pay special attention to managing *asymptomatic* patients with severe aortic valve stenosis. Next, course co-director **Michael Borger** presented on aortic aneurysms and questioned the 55 mm dogma in terms of the size threshold necessary for a surgical repair. Specifically, he asked whether 55 mm is an overestimation and whether sufficient evidence supports aortic ruptures and dissections in smaller ascending aortas. He concluded by stating that we need to explore better measures than simply examining aortic diameter. Following, **Joseph Bavaria** moved on to aortic regurgitation by explaining the slow and insidious evolution of the disease. He mentioned that detecting and treating aortic valve regurgitation should be done as soon as possible, and he highlighted the guidelines and treatment options throughout different phases of disease evolution. Taking things in a slightly different direction, **Marjan Jahangiri** brought up interesting points about the changing landscape of anticoagulation treatments after surgery and explored the risks and benefits of different anticoagulation therapy options after post-aortic valve replacement discharge. To conclude Session 1, **Joseph Bavaria** and **Friedhelm Beyersdorf** returned to discuss the key differences between European and American guidelines for aortic valve disease.

Session 2

Surgical approach

To kick-off Session 2, **Gino Gerosa** provided an informative overview of conventional and minimally invasive cardiac surgery, introducing the brand new concept of micro-invasive cardiac surgery which gives us the ability to correct structural defects of the heart while being off-pump (on the beating heart) by using either devices or catheters and taking advantage of the most



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recent technologies. **Bart Meuris** then reminded us that, in the age of minimally invasive surgery, a full sternotomy is still, in fact, preferable for some patients. His arguments were compelling, as he compared the outcomes of both types of procedures. Continuing with the pros and cons of different surgical approaches, **Marco Di Eusanio** reviewed the early- and long-term outcomes of mini-sternotomy and right anterior thoracotomy approaches. To conclude Session 2, **Marjan Jahangiri** returned to review the “enhanced recovery after cardiac surgery” literature, ultimately bringing awareness to perioperative care in addition to post-operative mortality and complications.

Session 3 **Durability**

In Session 3, **Gino Gerosa** started the session by providing an interesting discussion about tissue valve innovation and durability. He also discussed immunological rejection as a cause of aortic valve replacement failure. Next, **Michael Berger** returned to present data regarding the durability of biological valves while highlighting their key features that impact their durability. He showed some of the extensive pre-clinical work that is done to predict valve durability in patients, which was very interesting. Course co-director **Augusto D’Onofrio** then joined the course by not only providing an overview of the recommendations and guidelines for transcatheter and surgical aortic valve replacement, but also stressing the importance of patient-centered decision-making by keeping anatomy, lifetime management, and co-morbidities in mind. **Bart Meuris** then returned for his final presentation where he educated the audience on the interesting topic of health economics, specifically considering mechanical and biological valves. Lastly, to conclude the first day of the course, **Marco Di Eusanio** presented a very interesting live-in-a-box procedure involving a complex aortic valve replacement patient case involving a biological valve.

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MVT Aortic: April 7-8, 2022

Hybrid via Geneva & Edwards Masters

Summary & Highlights, Sessions 4-6

Friday, April 8, 2022

Summary

Following a hybrid format, the second day of the course included **8** speakers from **4** countries who gave **13** presentations and took part in **3** panel discussions. An audience of **22** in Geneva was again accompanied by over **500** online connections.

Collectively, the speakers discussed bicuspid aortic valves and how we should approach them in terms of various repair and replacement techniques for different types of patients. Additionally, the speakers discussed many aspects of redo-surgical aortic valve replacement, which was very insightful. Lastly, aortic valve hemodynamics were discussed in relation to different types of prostheses and aortic annulus sizes.

Highlights

Session 4

Bicuspid Aortic Valves (BAV)

Starting off Day 2, **Alessandro Della Corte** kicked-off Session 4 by summarizing everything we should know about BAV, including genotype, phenotype, classification, natural history, and proper diagnosis. Specifically, he showed how using current BAV phenotype knowledge can help tailor surgical management for each patient. Next, **Stephan Ensminger** provided an overview of the various treatment options for BAV and stated that a clear view of the patient's outcomes should help decide whether surgical aortic valve replacement or transcatheter aortic valve implantation is preferable. Following, **Ruggero De Paulis** laid out the considerations that should be made when choosing between aortic valve repair versus replacement in terms of treating BAV, namely considering aortic insufficiency. In the past, BAV was most frequently treated by a Bentall operation; however, **Alessandro Della Corte** then returned to discuss how valve-sparing root replacement can, in fact, serve as an alternative to Bentall procedures for patients with aortic root aneurysms by supporting the notion with patient outcome data. To conclude Session 4, **Augusto D'Onofrio** presented a very interesting Bentall case with a biological valve, which stimulated an interesting discussion surrounding mechanical versus biological valves in younger patients.


Session 5

Redo surgical aortic valve replacement (SAVR)

To begin Session 5, **Ruggero De Paulis** returned to offer up some tips and tricks for redo SAVR, focusing on how to identify when a redo SAVR should be performed and how to improve clinical practice. **Vinod Thourani** then reviewed different strategies for treating patients with a small aortic annulus and how annular enlargement, rapid-deployment, and transcatheter aortic valve implantation procedures could result in different patient outcomes. Next, **Sabine Bleiziffer** then gave two back-to-back presentations. First, she discussed patient eligibility for SAVR after transcatheter aortic valve implantation while providing a clear understanding of the patient outcomes for a redo SAVR based on a strategy that involved a SAVR after a transcatheter aortic valve implantation.



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Next, she presented a live-in-a-box procedure featuring a redo SAVR with a biological valve. **Stephan Ensminger** then presented the various strategies for performing a redo SAVR after a degenerated SAVR, and he reminded the audience of the relevant patient outcomes for redo SAVR procedures in an attempt to choose the most appropriate solution.

Session 6

Hemodynamics

Session 6 concluded this course, beginning with **Alison Duncan** discussing the importance of imaging to predict postoperative prosthesis-patient mismatch. She also provided the key parameter options and their impact on real-life clinical outcomes and consequences. Following, **Torsten Doenst** gave a keynote lecture where he discussed why conducting clinical research is extremely important for cardiac surgery and outlined the key steps necessary for successful clinical research in cardiac surgery. **Augusto D'Onofrio** then wrapped up the course by providing a hemodynamic comparison between rapid deployment and stented biological prostheses.

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