

## Discussion

**Presenter: W. R. Eric Jamieson**

**Unidentified Speaker 1.** The invited discussant is Dr Grubb from Emory.



**Dr Kendra Grubb** (*Atlanta, Ga*). Hi. Good afternoon. Thank you to the Association for the opportunity to discuss this paper. I appreciated the opportunity to read your manuscript. I was impressed with the results that you found, such low instance of valve thrombosis or valve embolism in either valve I wasn't surprised about, but the excellent results coming out of the developed world. Your last comments about anticoagulation, can you explain to us how the patients were followed so we get a better understanding of the rigorous nature of their follow-up?



**Dr W. R. Eric Jamieson** (*Vancouver, British Columbia, Canada*). Thank you, Dr Grubb. The study was conducted as a standard care evaluation. Each center managed its own patients, in accordance with the international normalized ratio (INR) protocol. There was no central monitor attending the facilities.

The central coordinator in Vancouver was able to maintain 92% of patients to meet the criteria of timelines of follow-up. The study did not monitor anticoagulation control.

**Dr Grubb.** And in your population, help us understand a little bit the implication of the difference with the mitrals. From the manuscript, the majority of the patients in the mitral arm came from within the Developing world. Do you think that the data is rigorous enough that we can apply the same information to a Western population? And are the data that you derived applicable to the Western population in a situation where the INRs weren't being monitored?

**Dr Jamieson.** As you state, Dr Grubb, the majority of the mitral patients came from the developing world, not from the Western world where mitral valve repair is predominant. We are confident that the mitral patients' performance in the developing world populations can be considered appropriate for the Western world with the same INR protocol management. We decided in 2014 to add South Africa and India into the study to achieve an adequate number of mitral patients.

**Dr Grubb.** And then my final question, as we look to the guidelines now with the reduced INR for the On-X valve (On-X Life Technologies/Artivion Inc), what do you predict

if we were to repeat this with a lower INR for the same groups of patients in the aortic position?

**Dr Jamieson.** There are several reasons that the St Jude Medical prosthesis (Abbott/St Jude Medical) patients should not be managed in the aortic position with the lower INR levels (ie, 1.5-2.0) identified in the Prospective Randomized On-X Anticoagulation Trial (PROACT) study. First, the mechanical function of the 2 prosthetic valves is different. Second, an earlier presentation from the University of Ottawa showed that enzymatic performance of the On-X valve is similar to other bioprostheses and superior to all mechanical prostheses. Because of subtle differences in performance, our opinion at this time is that low-level anticoagulation should not be utilized with the St Jude Medical prosthesis without a proper randomized trial. There is currently an additional study of the On-X aortic prosthesis being evaluated in a randomized trial, PROACT Factor Xa using Eliquis (Bristol-Myers Squibb). This study is progressing with the approval of the Data Safety Monitoring Board and the Food and Drug Administration.

**Dr Grubb.** Well, thank you very much. I'm sure our patients are looking forward to that time. Thank you.

**Unidentified Speaker 2.** Sorry, Eric, can I ask the 1 last question that was from the iPad, if PROACT Xa does show equivalent results with the dual anticoagulation therapy, do you think that these mechanical valves will be implanted more in developing countries? Will that have effect in developing countries? Will the patients take Eliquis there more frequently than they would take warfarin? It's just a speculative question.

**Dr Jamieson.** In response to your enquiry, the On-X prosthesis in the aortic position with Xa inhibitor instead of warfarin could become a reality not just in the developing world but worldwide. At the present time a repeat transcatheter aortic valve implantation procedure needs to have, at least, an initial size 23 bioprosthesis to avoid subsequent problems. A previous study from Erasmus-Vancouver identified a population group beyond bioprostheses and mechanical prostheses for which there is no known cause of mortality. These studies reveal that further research is a necessity with regard to prosthesis type selection.

**Unidentified Speaker 2.** Thanks. Thanks very much, Eric.

**Unidentified Speaker 1.** I guess the question will be whether or not they're willing to take the Eliquis versus warfarin, or is it because of the monitoring?

**Unidentified Speaker 2.** Yeah. That's the question, but maybe we'll get into that in the panel.