

Conflict of Interest Statement

Authors have nothing to disclose with regard to commercial support.

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Key Words: aortic valve sparing, reimplantation

Discussion



Dr Abe DeAnda, Jr (Galveston, Tex). Stefano, thank you for that nice presentation. I have 2 questions. The focus of your presentation is really group 3, the nonconventional patients who are getting valve-sparing root replacements without having aneurysmal disease. In this case I think, correctly, it is unconventional: they are younger, they had more bicuspid aortic valves than the other groups, and they required more time in repairing or cusp repair. How did you decide which of your patients undergo a valve-sparing root replacement for isolated aortic insufficiency, and, with an intent to treat, did you have some patients who you were planning for this operation who ended up getting a valve? That's my first question.

My second question: Your results are a little bit different than Tirone David's results, but I think your patient population is a little bit different, especially with this second and third group. Could you perhaps expand on that a little bit?



Dr Stefano Mastrobuoni (Brussels, Belgium). Thank you. For the third group, of course, as you said, these were young patients with a bicuspid valve. In our opinion, the valve-sparing reimplantation is the best technique to fix completely the functional aortic annulus at the level of both the

ventriculoaortic junction and the sinotubular junction. With bicuspid valve, this allows us also to restore the symmetry. We think this is an important point: Restore the symmetry. This allows us to avoid the use of patch if we need to cut the raphe and reconstruct the valve because it allows us to put the conjoined cusps closer together. Definitely there are some advantages, particularly for bicuspid valve.

Then, any time a valve can be repaired, we will repair the valve and choose this operation. The only valve that cannot be repaired is the valve with severe calcification where we should use an extensive patch. So this kind of valve will be replaced. We consider this technique for all valve repairs, particularly in the case of bicuspid valve, young patient, and where we have the opportunity to completely fix the valve at every level.

Regarding your second question, yes, our results are probably a bit lower than Dr David's study published last year, but, again, the populations are a bit different. For example, Dr David's bicuspid valve patients made up only 10% of his cohort; we have almost 40% bicuspid valve patients. Also, in 5% of patients we used a patch. Dr David never used a patch. He says that his population is highly selected because he does not want to repair cusps. So the cusps have to be normal or have only minimal abnormalities. We have an entire group, the third group, of patients who presented with cusp disease, but also in the second group we had more than 50% who required cusp repair.

So probably we are more aggressive, we are more liberal, and we have been using this technique even in patients with significant cusp disease, because we think that even if the risk of reoperation is a bit higher, the results are still better than a prosthesis, that most likely would be a mechanical prosthesis, considering the young age of this cohort.

Dr DeAnda. If I can ask you just to clarify the answer to that first question, so even a bicuspid valve that you are going to repair without a dilated annulus you may still choose this operation?

Dr Mastrobuoni. No. That disease is very rare. That is not dilated annulus, bicuspid valve.



Dr Eric Roselli (Cleveland, Ohio). The decision maker is the annuloaortic ectasia, correct?

Dr Mastrobuoni. Yes, of course.

Dr Roselli. What do you define as a dilated annulus then?

Dr Mastrobuoni. For the ventriculoaortic junction, more than 26.



Dr Edward P. Chen (Atlanta, Ga). Great study, nice presentation. It's not surprising that in the aneurysm and aortic regurgitation group plus the isolated valve repair group there was a high percentage of cusp repair, but I was surprised that in the aneurysm with no aortic insufficiency group about 54% had cusp repair, and you would think that if there was no aortic insufficiency before that it was just a matter of recreating the root geometry. I was wondering if you could elaborate on that a little bit.

Dr Mastrobuoni. If you think about it, if you have a dilated root and there is no aortic insufficiency before surgery, when you put the valve inside a smaller graft, right, because we had a 50-mm root and then we are putting in a 30-mm graft, the cusp mobility will improve, and you may have prolapse because now there is an excess of motion of the cusp.

Dr Chen. Would you consider using a larger graft, like a 34 or a 36, for that exact reason, because you are absolutely right if you have a 5.5-cm root and you have a large cusp if there is no aortic insufficiency, and 30 seems a little bit smaller. I know you size based on the height of the left non-commissural post, but maybe consider leaflet height as another way to size, particularly in this situation.

Dr Mastrobuoni. That's right.