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## Discussion

**Presenter: Dr Ashwini Chandiramani**



**Dr Scott Bradley** (*Columbia, SC*). Your work builds on previous work from your group, which was presented 2 years ago at the European Association, and there's a lot of interesting information in here about the LVOT in patients with complete AVSD. I have several questions for you. You presented information on the structure but not the function of the LVOT. Do you have any information on pressure gradients of these LVOTs and whether there's any correlation between the dimensions that you've measured and pressure gradients?



**Dr Ashwini Chandiramani** (*Aberdeen, Scotland*). Unfortunately, I did not assess or collect the data regarding the pressure points, but that's something definitely to consider to do later in this study.

**Dr Bradley.** You've obviously got the echocardiograms. That would be a good next study.

**Dr Chandiramani.** Yes.

**Dr Bradley.** The next question is whether some of your findings, particularly in the modified single-patch group, may have to do with patient selection. Many surgeons, as we've heard this morning, choose between 2-patch and modified single-patch depending on the depth of the VSD. So is it possible that the relatively small size of this subaortic area after modified single-patch repair is not directly related to the repair technique itself but rather the preoperative anatomy of the patients selected for the modified single-patch repair? Do you know if your surgeons use that way of choosing repair techniques?

**Dr Chandiramani.** At our institution, as we've discussed, it's the surgeon's preference, but from what I've understood, if the size of the inlet VSD is smaller, the modified single-patch technique is preferred. However, as a general institution, by default, the 2-patch technique is carried out. You make a valid point that we may not be comparing like for like because the size of the VSD may be different, and the shape of the ventricular scoop may be impacted by this. As a result, a randomized, controlled trial may need to be carried out, and the size of the VSD is also something to consider when comparing the techniques as well.

**Dr Bradley.** Yeah, you could also probably get at it by taking a good look at your preoperative echoes in the 2 groups and [confirm?] the outflow tracts. Final question is you know the actual reoperation for LVOT obstruction in these patients is rare, approximately 5% in most series. There was a large 4-center series from Australia presented at this meeting 3 years ago, which found no difference in LVOT reoperation between a 2-patch and a modified single-patch approach even when the patients were propensity matched. Given your findings, what are your group's thoughts on why the smaller outflow tract after a modified single-patch repair is not linked to a higher risk for LVOT reoperation?

**Dr Chandiramani.** It could be that the size of the study group is small, and given that the incidence is not high, the study may not have high enough significance to demonstrate the impact on whether it has an impact on outflow tract obstruction. It may not be strong enough.

**Dr Bradley.** Yes, and dementia may not be the only thing involved. There may be other factors involved.

**Dr Chandiramani.** Definitely.

**Dr Bradley.** Reoperation in the outflow tract is a complex area.

**Unidentified Speaker 1.** I think maybe you should have talked about [inaudible] case is closed, but the pendulum was swinging. I want to highlight something. I've happily been [inaudible] from a unit where there was a lot of Australia patch technique that has been used. I've been confronted with difficulties in the patient when the patients are coming back, and I think it's important to highlight that point. When you have an Australian patch technique and you have to redo the head of mitral valve replacement after that for failure of the AV valve, you have to redo the AV valve. I find myself in a situation where it's impossible to do anything else that undoes the whole repair and re-create the patch years later to accommodate the size of a new valve there. Last week, I observed an LVOT obstruction relief where the [inaudible] was so stuck that I had to do a Ross procedure at the same time. So do you have experience with—I'm hesitating between the words of difficulties or disaster after the reoperation in the Australian patch

technique? Sorry to share, but I think it's important to everybody.

**Dr Chandiramani.** Unfortunately, I don't have the surgical experiences yet. That's above my level as I am still currently a junior doctor, so I haven't developed the experience to comment on that yet.

**Unidentified Speaker 1.** Maybe David can comment.

**Unidentified Speaker 2.** I have been persistently wrong about this. Thank you for referencing that paper, "The Morphologic Specimen," for those of you who want to laugh. We're all among friends. It was my very first paper as a congenital heart fellow. I presented in this convention center on a Wednesday as the very last paper [laughter]. But to come to this, it seems to me there are issues that are immutable and not. Within your analysis, this is very elegant: You have a subcategory of patients with either technique who have better LVOTs, closer to normal LVOTs, or closer to the VSD LVOTs. Have you had a chance to look at that and say, "Let's take nature at its best"? Is there a

difference between when a surgeon modifies that versus when a surgeon creates something that's closer to what nature wants to be in terms of outcome or recurrence of sub-aortic stenosis?

**Dr Chandiramani.** That is something we should look into. I will go back to the United Kingdom and take all the comments that have been given to me today and carry this forward.

**Unidentified Speaker 3.** The nice thing about your study is that it highlighted the need to get a detailed echo assessment of the LV outflow and do that in a serial manner as in the series from Australia, and there are many. First, I don't think that the need for reoperation is necessarily a good indicator of having at least moderate LVOT obstruction. Of course, many of the images are just obtained in a single plane and without this kind of detailed assessment. So perhaps to answer these questions going forward, we're going to need to do something prospective with a more thorough assessment protocol.