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CORRECTION

Correction to: Midterm results of homografts in pulmonary position: a retrospective single-center study

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Discussant is missing in the original article and is shown below:

Discussant:
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The current retrospective study reiterates few facts about the homograft use in establishing RV-PA continuity. It compares the midterm outcomes of pulmonary homograft versus aortic homograft in pulmonary position. The major drawback is the absence of randomization.

Q1. According to authors severe homograft stenosis/regurgitation is considered as homograft dysfunction. Going by this definition majority of graft dysfunctions are graft failures. This needs explanation.

Ans. We have defined homograft dysfunction as presence of moderate or severe stenosis or insufficiency. We have defined homograft failure as explant of the valve for any reason because of any cause. Yes, homograft dysfunction is a precursor for homograft failure, but there could be other causes for homograft failure too, like infective endocarditis or pseudoaneurysm involving the homograft. Hence homograft dysfunction is an eventually inevitable result which progress over a period, while homograft failure is the explant of the homograft which could be either early or late after the surgery.

Q2. Few patients who meet the criteria for graft failure by echocardiography are clinically asymptomatic. In such scenarios, how did authors decide on the patient management?

Ans. Patients with moderate or severe homograft incompetence undergo a functional MRI and the protocols for pulmonary valve replacement are followed in these patients. Patients with homograft stenosis are followed -up more frequently with sequential echocardiograms and an initial exercise tolerance test. Presence of severe stenosis is considered as an indication for homograft replacement.

Q3. Based on the Z values, how do authors select an appropriate homograft for a given patient?

Ans. In younger patients, with body weight less than 20 kg, we prefer to select a homograft that matches a Z score of +2, provided there would be no compression of the homograft during sternal closure. In patients with body weight more than 20 kg, the general rule applied is to select a homograft as big as possible, which would not be compressed during sternal closure.

Q4. Xenograft has been used in one of the patients. It will be interesting to know which type of xenograft, how it was processed and was there any immunosuppression used?

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Ans. Our primary choice of conduit is homograft. We have not used Xenograft for any patient. The one patient who underwent xenograft explantation had underwent the primary procedure elsewhere. The surgical records from the previous hospital revealed it to be a Contegra graft. During explantation, we found the Contegra to be completely calcific, with calcific and fixed valve leaflets.

Q5. What could be the possible reasons for overall higher rate of pulmonary regurgitation and homograft dysfunction with pulmonary homografts?

Ans. Yes, the overall rate of pulmonary incompetence and homograft dysfunction is higher in pulmonary homograft in our study, but this difference is not statistically significant. This could be due to short period of the over all follow-up. Moreover pulmonary homografts have a tendency to dilate especially in high pulmonary vascular resistance situation or when there is poor distal arborization, as is seen some cases of unifocalization. The important factor being the significantly increased rate of reintervention and significant calcification of the aortic homograft, which were statistically significant. We believe that over time, on further follow-up, the rate of incompetence and homograft dysfunction would increase in aortic homografts.

Q6. What could be the explanation for homograft dysfunction and failure in larger homografts?

Ans. This could be due to extrinsic compression, when we try to accommodate too large a conduit. One needs to weigh the risk of multiple conduit changes against an early graft failure, when a too oversized conduit is used. Our current policy is not to use homograft bigger than Z + 2 in children less than 20 k.

Q7. Reintervention rates are higher in group III compared to Group II (groups according to age) which is in contrast to other studies. What might be the possible reasons?

Ans. The reintervention rates are higher in group III. Although this result was not statistically significant, we believe this could be because of a selection bias with respect to homograft with more patients in group III receiving Aortic homografts. This result thus suggests that even in older patients the choice of Aortic homograft is not ideal in long term.

Q8. Did the authors analyze the effect of bicuspidization on the outcome?

Ans. Yes, we analyzed the effect of bicuspidization, but have not mentioned the results in the study as we felt they needed to be presented separately.

Q9. What was the rationale of doing this study as there are many studies comparing these two types of homografts available in the literature?

Ans. Even though homografts have been in use for more than 4 decades, there is significant paucity of data in the Asian population. There is no existing data of the results of use of homografts in pulmonary position in Indian subcontinent. With increasing number of patients in the subcontinent who require a RV to PA conduit, we believe this data would be useful.

Q10. What are the different types of conduits used in authors' institution? Is there any comparison study done between different conduits and homografts?

Ans. We have used valved and valve less PTFE conduits, valved and valve less bovine pericardial conduits apart from homografts. Since the number of PTFE and bovine pericardial conduits are very less and were used only when an appropriate sized homograft was not available, we have not done any comparative study of these different conduits with homografts.

The original article is corrected.