

## Peer Review File

Article Information: <https://dx.doi.org/10.21037/cdt-23-364>

### Reviewer A

The authors investigated three conduits for RVOT reconstruction, namely bovine jugular vein, aortic homo-graft, and porcine-valved conduits. The study included 155 patients and recruited patients over 20 years.

Comment 1: The topic of the study is still debatable and this manuscript will contribute to the current evidence.

The study is well written, with appropriate grammar.

Reply 1: Thank you

Changes in the text: None

There are several limitations and comments:

Comment 2: Pulmonary homografts are the most common types used for RVOT reconstruction. The authors should explain in details why they don't use Pulmonary homografts. The literature showed better durability for Pulmonary homograft in this position. The study is also limited by the uneven distribution of patients in each group.

Reply: Thank you for the comment. Pulmonary homografts are not available in our institution, so we did not evaluate them.

Changes in the text: study implications:

This study provided insight into tailored conduit selection, and further studies are required to optimize conduit selection further and assess pulmonary homografts, which was not evaluated in our study because they are not available in our institution.

Comment 3: The sample size and design are not enough for a robust conclusion. Please amend the language of the conclusion to suit the study (ex.. could be risk factors for ...) ( durability might be comparable...)

Reply 3: thank you for the comment.

Changes in the text: conclusion

The durability and graft-related events might be comparable among bovine jugular vein grafts, aortic homografts, and porcine-valved conduits.

Comment 4: What are the future implications of the study?

Reply 4: Thank you for the comment. We added the future implications:

Changes in the text:

This study provided insight into tailored conduit selection, and further studies are required to optimize conduit selection further and assess pulmonary homografts, which was not evaluated in our study because they are not available in our institution.

Comment 5: Figures are distorted and can't be evaluated.

Reply 5: Thank you, we reuploaded the figures.

Changes in the text: None

#### Reviewer B

This is a single center, retrospective chart review of 155 patients with 193 procedures for RV-PA conduits from 2001 to 2021 were included. Most patients (n= 153) received bovine jugular vein grafts (BJVs), followed by aortic homografts (n= 29), and porcine valved conduits (n= 11). The numbers are small, the study spanned 20 years, and there were differences among the patient baseline characteristics between these groups making comparisons challenging.

Comment 1: How was the follow up performed and how complete was it?

Reply 1: Thank you we added a paragraph about follow-up in the methods.

Change in the text:

Follow-up:

The patients were followed in the outpatient clinics and the follow-up data were retrieved from the medical charts. Additionally, follow-up data were collected from admission and procedure records for patients who required readmission of interventions. Patients followed by phone calls to confirm the vital status, as a part of the clinical follow-up.

Comment 2: What determined the type of implant? Was there a surgeon preference?

Reply 2: Thank you for the comment. We added the following:

Changes in the text: Patients and methods:

The graft choice was dependent on surgeons preference and experience and the available graft sizes.

Comment 3: The figures are illegible and lack axis labelling and the numbers of patients at risk at any given time point.

Reply 3: Thank you, there is a technical errors in the graphs and we reuploaded them

Changes in the text: none

Comment 4: There are some language and formatting issues that need to be corrected throughout the manuscript.

Reply 4: Thank you for the comment. We edited the manuscript

Changes in the text: all over the manuscript.

#### Reviewer C

Thank you for giving me the opportunity to review this manuscript. The article is well written and presenting an important information in the field. However, I have the following

comments:

1 - Why are there patients with more than 20 years old follow up while the study mentioned that the center only had 20 years old?

Reply 1: The timeline of the study extends from 1999- to 2021. These are the timeline for surgery but follow-up extends beyond this time. So some patients had follow-up more than 20 years.

Changes in the text: patients and methods

This retrospective study included 155 patients who had 193 procedures for implanting RV-PA conduits from 1999 to 2021

2- why pulmonary homograft was not used in this study ?

Reply 2: Thank you for the comment. Pulmonary homografts are not available in our institution.

Changes in the text:

This study provided insight into tailored conduit selection, and further studies are required to optimize conduit selection further and assess pulmonary homografts, which was not evaluated in our study because they are not available in our institution.

3- Can you add paragraph at end of discussion about selection of which conduit for the best use?

Reply 3: Thank you for the comment. We added the paragraph

Changes in the text: Discussion:

In summary, the best conduit is what fits well. From our data we found that if there are risk factors for infective endocarditis, it might be better to use homograft. Homograft is also valid if the pulmonary branches are undeveloped or smaller in size. If the patient is young or the plan to do less surgical reoperation, it might be better to use bovine jugular vein conduit.

4-Can you add more information about patients with high risk group for infective endocarditis?

Reply 4: Thank you, we added the following to discussion

Changes to the text:

From our experience, the risk of endocarditis could be down syndrome or DiGeorge syndrome, history of infective endocarditis, dental caries or abscess and failure to thrive below 3rd percentile for weight.

#### **Reviewer D**

In order to be accepted as a paper in a good scientific journal, it is necessary to provide some new knowledge to the readers.

There are many papers on RV-PA conduits. Bioprosthetic valves in small children deteriorate more quickly than adults, and as children grow, the bioprosthetic valve used becomes relatively smaller, requiring replacement with a larger valve. This paper compares Bovine jugular vein, homograft (aortic vs pulmonary), and porcine valved conduit, but the results are not particularly different from previous papers, and it cannot be said that new findings were obtained. The conclusion is almost the same as the one that fits well, and

pulmonary is often used for homograft, but aortic, which is said to be bad, is used, and there are not many.

Unfortunately, I don't think it's suitable for publication to our journal.

Reply: Thank you for the comment. The topic about the optimal conduit is still debating. Additionally, not all conduits are available in each centers. The study results could help other centers with similar circumstances and advocate to continue research on this topic to improve graft choice and performance.