Reviewer’s report

Title: Comparison of conventional and primary sutureless surgery for repairing supracardiac total anomalous pulmonary venous drainage

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Reviewer: S Ram Kumar

Reviewer’s report:

The accompanying manuscript is a report of 43 patients with supracardiac TAPVD who underwent conventional or sutureless surgical repair. The report sought to analyze if sutureless repair was associated with better outcomes. The authors have done a nice job of choosing a homogeneous cohort of patients from a single institution, which is the major strength of the paper. However, there are some fundamental issues that significantly deter the enthusiasm for this paper -

1. The most significant drawback in the study is the small number of patients with very few events (post-op PVO and death). The study was simply not powered to find a difference between the two surgical approaches. As mentioned by the authors, several prior reports (reference 14 and 20 for example) have attempted to show a difference between surgical techniques with larger patient numbers and longer follow-up. What do the authors feel is the novelty in their work?

2. I have very specific concerns about the study cohort and design
   a. A median follow-up of under 3 years is very short and would not qualify as intermediate follow-up as reported by the authors.
   b. How were patients followed? How was PVO diagnosed post-operatively?
   c. The median age of the patients is about 6 months, and it is not clear if any had obstructed TAPVD. This is not representative of the of the typical TAPVD patient cohort. Would their results be different if more patients were neonates or had obstruction?
   d. A difference of 21 min in CPB time is not intuitively explained by the technical differences between conventional and sutureless repair. The authors imply in Page 7 line 42 that this could represent differences in surgical techniques, which is most likely true. In a non-randomized study, such unmeasured technical differences introduce additional bias when comparing techniques practiced by different surgeons.

3. Have the authors encountered patients in whom the confluence is completely retro-pericardial? If that were the case, how would they perform a sutureless repair?
4. There are other smaller issues that need to be addressed -

a. In Page 6, line 55, the authors report that no death was cardiac - it is hard to argue that patients with recurrent PVO who died did so from some unrelated non-cardiac cause.

b. There are multiple grammatical errors and incomplete sentences throughout the manuscript that need to be addressed.

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