Reviewer’s report

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

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Reviewer: Guo-Wei He

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Comparing conventional and primary sutureless surgery for repairing supracardiac total anomalous pulmonary venous drainage in mid-term outcomes

This study by Zhu et al from Southern Medical University compared the differences in mid-term outcomes for those patients that received conventional surgery and those that underwent sutureless technique for the primary repair of supracardiac TAPVD. A total of 43 patients with supracardiac TAPVD underwent surgical treatment at were reviewed retrospectively. Primary sutureless repair was conducted in 20 cases (46.5%). The pulmonary vein scores, left ventricular ejection fraction (LVEF), baseline of the included patients, postoperative, and outcomes data were analyzed between the two groups.

The conclusion was that mortality, post-PVO, follow up results of supracardiac TAPVD showed no differences between sutureless and conventional techniques. Post- pulmonary venous obstruction (PVO) supposed to be the main reason for postoperative mortality.

This study has added some more experience in so-called sutureless or "atriopericardial" repair of TAPVC. The results are encouraging.

Major Critiques:

1. The major question is what this study adds to the already-known results of sutureless repair of TAPVC. The similar or the same conclusion was already reported in the original study by Yanagawa et al [Ref. 14]. The conclusion is a repetition of the previous studies and well known.

2. The conclusion that "Post-PVO supposed to be the main reason for postoperative mortality." is not supported by the results.

3. What do you mean by "PVS was evaluated 0.1±0.3 in sutureless group, 0.1±0.3 in conventional group"? What is the unit for the number?
4. The study does not tell what benefit of the sutureless method is. It has longer X-clamp time and CPB time (although statistically not significant) and same incidence of PVS. Why the method was used? This should be discussed.

5. The original study suggests that application of the technique to high-risk patients may be beneficial. The sutureless technique is a useful addition to the surgeon's armamentarium, particularly for repair of difficult cases, such as infracardiac TAPVC. However, the present study ONLY used this technique for supracardiac TAPVC. Was there any infracardiac TAPVC in which the technique was used? Perhaps, in revision, it is better to emphasize that this method can be used for supracardiac TAPVC with good results.

6. The quality of the hand-drawing is poor. It should be done professionally.

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