

Value of pulmonary annulus index in predicting transannular patch in tetralogy of Fallot repair

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Abstract

Objective: It is very important to accurately assess the transannular patch (TAP) in the surgical treatment of tetralogy of Fallot(TOF). **Methods:** 130 patients who were diagnosed with TOF and underwent TOF repair. 112 cases were included in this study. They were divided into TAP group and no TAP group; the values of pulmonary annulus and aortic annulus were measured. GA ratio, PAI, PAAI, the pulmonary annulus Z-score and main pulmonary artery (MPA) Z-score were calculated to do statistically analyze. **Results:** A total of 112 patients were included in the study.62 cases (55.8%) did not transannular patch, 50 cases (44.2%) undergoing transannular patch. The pulmonary annulus Z-score, main pulmonary artery Z-score and PAI in TAP group were smaller than those in no TAP group ($P < 0.05$). ROC analysis showed that when the cutoff value of pulmonary annulus at -1.98 ,the area under curve (AUC) was 0.88, the sensitivity was 80%, the specificity was 71%; when the cut-off value of PAI at 0.53 ,AUC was 0.85, the sensitivity was 75%, the specificity was 80%; when the cutoff value of GA ratio at 0.55 ,AUC was 0.85, the sensitivity was 76%, and the specificity was 80%. The area under the PAAI curve (AUC) was 0.85, the sensitivity was 76%, and the specificity was 79%. **Conclusion:** The predictive effect of pulmonary annulus index as a simple and effective predictor of TAP in TOF radical operation is the same as that of pulmonary annulus Z-score.

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