

Alternative Route to Improve Success in Right Sided Supraventricular Tachycardias in Children: Transjugular Approach

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BACKGROUND: Catheter ablation via the femoral vein has been widely used in children. However, in certain conditions, an alternative vascular access is required for a successful ablation. Herein we reported that, accessory pathways (APs) and ectopic foci which reside right anterior and anterolateral to tricuspid valve orifice can be safely and effectively ablated with transjugular venous approach.

PATIENTS and METHODS: Ten procedures performed via the transjugular venous approach were reviewed retrospectively from the 355 electrophysiological procedures performed between March 2016 and November 2017. EnSite 3D electro-anatomic mapping and limited fluoroscopy was used in all patients.

RESULTS: The mean age of patients was 15 ± 2.4 years (12-18) and 6/10 (60 %) were males. Six of the patients had previous ablation procedures via the femoral vein approach and due to failure or recurrence the procedures had to be repeated. In these patients mean procedure time shortened from 175 ± 75 minutes (105-280) to 112 ± 21 minutes (96-143) with the transjugular approach. 9/10 patients had APs, and one patient had focal atrial tachycardia. One of the APs was a Mahaim pathway. Ablation localisations were right anterior and right anterolateral in 7/10 and 3/10 patients respectively. The average procedure time was 145 ± 50 (64-220) minutes and the fluoro time was 2.7 ± 3 (0.5-9) minutes. All of the RF ablations via transjugular approach were successful (100%, 10/10). The mean follow-up period was 5 ± 4.6 (2-18) months. So far no recurrence has been observed.

CONCLUSION: Right anterior and anterolateral regions are the most challenging areas in terms of catheter stabilization even when long sheaths are used during femoral route ablation. Ablation attempts in these regions have partial success, frequent recurrence and high complication rates. This study revealed that transjugular approach seems as an effective alternative for those cases where transfemoral approach is unsuccessful for the ablation targets located in the right anterior and anterolateral regions.