

**Catheter ablation of supraventricular tachycardia in children using the Ensite NavX System with limited fluoroscopic approach; Two years of experience in a new center.**

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**Aim:**This study is aimed at presenting the outcomes of children with supraventricular tachycardia(SVT) treated with ablation and electrophysiological therapies(EPT) within the last 2 years.

**Methods:**Patients who were treated with radiofrequency ablation/cryoablation(RFA/CRA) and EPT in the Electrophysiology Laboratory of Pediatric Cardiology Clinics, Istanbul Mehmet Akif Ersoy Chest and Cardiovascular Surgery Training and Research Hospital, Istanbul, Turkey, between November 2013 and November 2015 were included in this study.

**Results:**A total of 221 ablation procedures were applied on 214 patients(116 males and 98 females). The average age and weight of patients were found to be  $12.9\pm 4.0$  years and  $48.4\pm 16.8$  kg, respectively. Only RFA, only CRA, and both RFA and CRA in the same session were applied in 93(42%), 112(51%), and 16(7%) of the procedures, respectively. Some patients had Ebstein abnormality(four patients), hypertrophic cardiomyopathy(one patient), and TGA+VSD+PS(one patient), for which Rastelli operation was performed. Two patients developed cardiomyopathy due to tachycardia. When the substrates of arrhythmia were checked(some of the patients had more than 1 substrate), 80 of them had atrioventricular nodal reciprocating tachycardia(AVNRT), 56 had concealed accessory pathway(AP, 14 were right sided and 42 were left sided), 79 had manifest AP, and 19 had focal atrial tachycardia(FAT)(5 were left sided and 14 were right sided). Rapid success was achieved in 202 patients(94%). The distribution of unsuccessful arrhythmia substrates was as follows: nine patients had AP(five were right and four were left sided) and three patients had FAT(two were right and one was left sided). Relapses were observed in seven patients(3%) during the follow-up of  $11.0\pm 7.5$  months. Among these patients, five were diagnosed with AP and two with AVNRT. Second interventions were successful in all relapse cases. The total duration of the procedures and fluoroscopy was  $170.3\pm 66.7$  and  $3.6\pm 6.9$  min, respectively. Fluoroscopy was never used in 144 procedures(67%). Transient atrioventricular(AV) block in two patients and permanent incomplete right bundle branch block in one patient were observed.

**Conclusion:**The RFA/CRA procedure can be used effectively and with very high rates of success in the ablation treatment of SVTs in children without any complication, and with or without any need for fluoroscopy because of the advantage provided by Ensite NavX System.