

Efficiency and safety of CARTO ablation of atrial tachycardias in preschool children

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Importance: Prolonged X-ray radiation during RFA is a risk of remote complications especially in children of yearly age. Navigation mapping in such category of patients is reasonable to reduce fluoroscopy time.

Aim: To assess the efficiency and safety of navigation mapping in RFA of atrial tachycardias in children.

Results: 30 RFA with CARTO system were performed to 23 children with atrial ectopic tachycardias during 2006 – 2016 years. The patients' age was 5,0 years (IQR: 3,58-6.0), ranging from 7 months to 7 years old. 7 patients were less than 15 kilos during CARTO. The minimal age of the child who was performed CARTO was 7 months, the minimal weight – 7,4 kg.

As minimal size of the diagnostic catheter used in this system is 7 Fr (NaviStar™), it is necessary to make a preliminary assessment of the diameter of femoral vessels by echocardiography.

Ectopic focus in most patients was in left atrium (n=20). In two cases the approach to left atrium was performed by transseptal puncture, in one case – through patent foreman ovale.

The overall efficiency of CARTO ablation considering recurrences and retreatments was 91,3%.

Vessel injuries and other complications, associated with a procedure, were absent. Due to CARTO ablation decrease of fluoroscopy time in 2,3 times in comparison with standard fluoroscopy mapping ($p<0,001$) was marked.

Conclusion: RFA with navigation mapping is effective and safe in children weighing more than 7 kilos and allow reducing time of X-ray radiation to minimize complications associated with radiation exposure.