

## MP4-5

### **The results of thoracoscopic procedures in pediatric patients with life-threatening cardiac arrhythmias and conduction disorders**

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The objectives: To evaluate the outcomes of video-assisted thoracoscopic surgery (VATS) as an adjunctive therapeutic approach in pediatric patients (pts) with cardiac arrhythmias and conduction disorders.

Methods: In 2016-2018 yrs, 22 pts aged 4 to 15 underwent VATS at our institution. Group I (n=16) – pts with long QT syndrome (LQTS) and catecholaminergic polymorphic ventricular tachycardia. Group II (n=6) – pts (body mass less than 15 kg) with third-degree atrioventricular block (n=5) and Sinus node dysfunction (n=1). In Group I all pts underwent left cardiac sympathetic denervation (LCSD) (low pole of Th1-Th4), 8 pts (50%) received implantable cardioverter-defibrillators (ICDs) before or during LCSD. In all cases beta-blockers therapy were not effective before LCSD. Invasive electrophysiological study (EPS) was performed before and after sympathetic denervation. In pts with ICDs EPS was performed via device. In Group II permanent cardiac VVIR pacemaker (PM) with bipolar leads (2 pts) and unipolar screw-in leads (4 pts) were implanted using VATS. Follow-up period was 3 - 24 months with continuous beta-blockers therapy.

Results: The trend to increasing of right ventricular effective refractory period have been found just after LCSD. We observed no cardiac arrhythmias in 15 pts (93.75%) in Group I. Non-sustained ventricular tachycardia in this group was induced during exercising test in 1 child (6.25%). Pacing and sensing parameters were appropriate in Group II. There were no any complications in both groups.

Conclusion: LCSD is a minimally invasive technique that results in good benefits in patients with LQTS. Permanent PM implantation using VATS could be selected for pediatric pts with low body mass. VATS was confirmed to be an effective adjunctive therapy in pediatric pts with cardiac arrhythmias and conduction disorders.