

Lead extraction – growing problem in children with endocardial pacing

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Introduction: Removal of endocardial pacemaker or implantable cardioverter-defibrillator (ICD) leads in children is difficult clinical problem. In young patient lead failure is more often observed than in adults, non functional endocardial lead may increase risk of venous obstruction or infection and makes new lead implantation more difficult. The indication for lead extraction in pediatric population has to be individualized. The purpose of this study was to sum up our experience in removal of endocardial leads. Material: From January 2007 to December 2011 we extracted 25 leads (16 right ventricular, 5 atrial and 4 ICD leads) in 21 children age from 5 to 18 (mean 13,3) years. The implant duration ranged from 0,1 to 11,4 (mean 4,9) years. The lead failure was the main reason for extraction -19 leads (76%), in 4 (16%) children, with long lasting permanent pacing, ventricular leads were dangerous tight because of the patients' growth. In 2 cases with ICD leads were removed because of endocarditis or sepsis. In all children the lead extraction procedure was performed under general anesthesia by the same experienced team (cardiologists and one cardiac surgeon), the extracorporeal oxygenation and circulation system was available. In all children the Cook Medical system was used during the procedure. Results: All the procedures were successfully completed. 19 leads (76%) were totally removed. In 6 children we had clinical success (a short fragments of 2 atrial lead and 4 ventricular leads were abandoned). In 1 patient subclavian venous bleeding occurred as a main our complication. None required cardiac operation. In 18 children we implanted a new endocardial pacing system during the same procedure. Conclusion: In children the main indication to remove an endocardial lead is its failure. Extraction of an endocardial lead in children is difficult but possible even after long pacing duration, but experienced team and proper facilities are necessary.