

**Radiofrequency Catheter Ablation of Supraventricular Tachycardia in a Preterm Infant. Case Report.**

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Introduction: Sustained fetal tachycardia is an uncommon situation. It may cause fetal hydrops, preterm delivery, and higher perinatal morbidity and mortality. Accessory pathway is the most frequent cause of tachycardia in neonates and is usually well controlled with antiarrhythmics. The risks of radiofrequency catheter ablation are still high in infants because of their low weight and the small size of their vessels, so it is reserved for arrhythmias without medical treatment response.

CASE REPORT: Fetal tachycardia with heart rate 230 bpm detected in a routine echocardiography in week 32. Hydrops was present. Trans-placental treatment with digoxin and flecainide was started, achieving a heart rate decrease (200 bpm) and partial resolution of hydrops. Spontaneous delivery occurred at 32+6 weeks. At birth, ECG showed regular tachycardia, 220 bpm, with narrow QRS and short RP. Echocardiography was normal except for a severe mitral regurgitation (also present prenatally). Sinus rhythm was accomplished with several doses of endovascular adenosine but only for a few seconds. Treatment with digoxin and propranolol was started with no results. Different drug combinations were used unsuccessfully: flecainide, digoxin + flecainide, propranolol + flecainide, amiodarone, and amiodarone + digoxin + propranolol. Patient continued hemodynamically stable although echocardiography showed mild heart dysfunction. At 19th day of life, with 2.5 kg of weight, electrophysiology study was performed under general anesthesia and through a right femoral vein approach. Patient presented sustained tachycardia with narrow QRS, right bundle branch block and negative P wave in aVL, II, III and aVF. Left atrium was accessed through the foramen ovale; a mitral ring cartography was performed with 6 French catheter. Ablation was performed with radiofrequency (25 watts) of a left accessory pathway (in the lower mitral ring area) with orthodromic AV conduction. There were no intra-procedure complications. Two years later the patient remains stable with sinus rhythm and normal heart function without any medication.

CONCLUSIONS: Radiofrequency catheter ablation may be a therapeutic option in preterm infants with incessant supraventricular tachycardia. It may be the technique of choice in refractory cases with hemodynamic compromise.