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**Ablation of right-sided accessory pathways in children and patients with congenital heart disease using a new 3D Mapping system (NavX- Velocity ®)**

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Introduction: Right sided accessory pathways (AP), are readily approached for catheter ablation by venous access but still have the lowest acute success rates, the highest incidences of recurrence and often require long fluoroscopy times. We describe our experience using a new 3D mapping system (NavX-Velocity® ) in children and patients with congenital heart disease (CHD) for mapping and ablation of right-sided APs.

Methods and Results: Seven patients (age 10 - 41, mean age 17,6 years, 3 males) with right-sided accessory pathways (AP) underwent catheter ablation. One patient had structural heart disease (Ebstein´s anomaly). Atrioventricular reentrant  tachycardia was induced in 3 patients. The anatomy of the tricuspid ring and the coronary sinus ostium was reconstructed and mapping of the AP performed during sinus rhythm using the NavX Velocity® system. The AP was located at the lateral right free wall (n=1), anterior right free wall (n=3) or in the right posteroseptal area (n=3). Acutely successful catheter ablation was performed using a long sheath (Agilis NxT Steerable Introducer) in all patients (irrigated tip catheter n=6, solid tip n=1). Mean fluoroscopy time was 17,8 min (10 - 33 min) and mean procedure duration was 145.8 min (69 to 259 min). No procedural complication occurred.  Mean follow-up time was 6 months (2 – 10 months). During this time a recurrence of the accessory pathway occured in one patient (1/8 pts, 12,5%) with a right anterior free wall AP, who underwent successful reablation.

Conclusions: In pediatric and CHD patients with right-sided APs, the use of the NavX-Velocitiy 3D mapping system for catheter ablation improves acute ablation success and can help to reduce fluoroscopy time. Furthermore nonfluroscopic guidance (NavX) seems to reduce the recurrence rate compared to a conventional approach.