First multi-center experience with EXCOR pediatric in Poland – successful introduction of pediatric VAD therapy.

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Objective: The EXCOR pediatric VAD is an important treatment option in children with severe heart failure as bridging to heart transplantation or myocardial recovery. This retrospective study reviews the multi-center results in Poland since the introduction of EXCOR pediatric in December 2009.

Methods: A total of 23 patients were implanted (mean weight 19.7 kg, mean BSA 0.74 m², mean age 5.2 years) between December 2009 and December 2014. All patients were on inotropic support at time of implantation, nine patients required mechanical ventilation, two patients were on previous ECMO and one patient on ECC support. Leading diagnosis was idiopathic cardiomyopathy (8), CHD (5), myocarditis (6), LVNC (2), postcardiotomy syndrome (1) and restrictive cardiomyopathy (1).

Results: Mean support time on device was 153 days (min. 3 d, max. 971 d), LVAD / BVAD ratio was 19 vs. 4 (83%, 17%). Overall survival was 74% (17 out of 23) with nine patients being successfully transplanted (39%) after a maximum support time of 433 days, four patients with device removal after recovery (17.5%) and four patients still on system (17.5%). Overall 15 pumps had been changed (1.6 events per patient year). Signs of local infection were seen in 5% (0.10 EPPY) and the rate of severe neurological events was 9% (0.21 EPPY). Major bleeding occurred in 14% (0.31 EPPY).

Conclusion: The EXCOR pediatric VAD has been successfully introduced in Poland with excellent results comparable to other experienced centers throughout US and Europe. Despite a relevant proportion of complex congenital heart disease patients and overcoming a potential learning curve the new device technology was applied with remarkable outcome and low complication rate. Long-term support of almost 3 years on VAD reflects the overall trend of extended waiting time until HTX.