Impella® Recover and Ventricular Unloading System, a 2 Years Clinical Experience

U. Kjellman, L. Hellgren, E. Wassberg, J. Hultman, P.O. Joachimsson, U. Alström, O. Jonsson, G. Dellgren, G. Myrdal, Uppsala and Stockholm, Sweden

Objektive.
The Impella®recover and ventricular unloading system is a small less invasiv potent device for significant ventricular unloading in a acute phase of left or right heart failure or both because of acute myocarditis, post cardio-pulmonary bypass or as ”bridge” to decision.

Methods.
During a 2 years period of time we have supported in total 24 patients, 11 Impella®LP 2.5/5.0 with a support time of 1 – 14 (mean 6) days, 2 Impella®LD 3 days, and 11 Impella®RD 1 - 8 (mean 6). The age distribution was for the LP mean 63 and RD mean 58.

Results.
The overall survival rate (30 days) was 55%. In the group of acute myocarditis (n=3) with severe left heart failure the survival rate was 100%. In the group with acute right heart failure (n=11) the outcome was poorer (43%) because of very severe ill patients and in some cases (n=4) with biventricular heart failure (combined LVAD). The group treated with Impella®LP both cases were post cardiotomi with total recovery after 3 days of support. There were no device failures but in one case we found a thrombus formation attached to the end of the pigtail part of the device without any signs of embolisation. In one case with HIT (Heparin Induced Thrombocytopenia) we noticed increasing purge pressure and diminished flow and by removing the device it was covered with a thin layer of thrombus formation. No signs of infection was shown. In 4 cases the Impella®RD were used as a BIVAD in combination with LVAD:s.

Conclusion:
The Impella®recover and unloading system is a reliable and powerful short term device supporting both the left and right ventricle in acute heart failure. It has a big impact for assessing patients reffered for severe heart failure and supporting these patient as a ”bridge” to decision, ”bridge” to recovery or as ”bridge” to ”bridge”.