

# Axillary implantation of Impella CP allows early rehabilitation of patients in cardiogenic shock bridged to heart transplantation.

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**Introduction:** Axillary implantation of Impella CP device (Abiomed, Inc) is a novel implantation method for patients in cardiogenic shock (CS), which facilitates a better placement of the device and allows mobilization of patients while on support.

**Purpose:** To describe our pilot experience using axillary implantation of Impella CP as a bridge to heart transplantation (HT) allowing better rehabilitation on support.

**Methods:** Retrospective single-centre descriptive study of CS patients bridged to HT on support with Impella® CP through axillary artery between March and December of 2016. We collect data about survival, time of mechanical ventilation after HT, days in ICU, days to hospital discharge and major complications including bleeding or infection.

**Results:** 4 patients were bridged to HT with a transaxillary Impella® CP. Data of patients are in the table below. All Impella CP devices were surgically implanted using a Dacron graft. Patients 1, 2 and 3 had received an intraaortic balloon pump before Impella® CP. All patients were extubated immediately after Impella® CP implantation and started an early rehabilitation program consistent in kinesitherapy, respiratory physiotherapy and active movements. Median time on device support was 13.5 days (IQR 11.25 to 15.5). In one patient the device had to be repositioned because of displacement. Median time of ICU stay after HT was 7.5 days (IQR 5.5 to 9.75 days) and median time to hospital discharge after HT was 29.5 days (IQR 26 to 33.5 days). All patients were discharged alive. Major complications after HT were bleeding in one patient with cardiac tamponade and an ischemic stroke in other patient with significant bilateral carotid stenosis. Patient recovered without neurologic sequelae.

**Conclusion:** Axillary implantation of Impella® CP seems to be a valid strategy for bridging patients in INTERMACS 1 and 2 for HT allowing early initiation of rehabilitation therapy while on support.

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Patient	Gender	Age	Heart condition	INTERMACS profile at implantation	Time of support (days)	Intubation after HT (hours)	ICU stay after HT (days)	Days to discharge after HT	Complications
1	Male	65	Idiopathic dilated cardiomyopathy	2	20	11	6	30	Cardiac tamponade
2	Male	68	Ischemic cardiomyopathy	1	6	72	9	44	Ischemic stroke
3	Male	55	Idiopathic dilated cardiomyopathy	2	13	96	12	29	None
4	Male	56	Eosinophilic myocarditis	2	14	12	4	17	None

ICU: Intensive care unit; HT: Heart transplant.