

Is IABP implementation a feasible option in end stage heart failure patients with malignant rhythm disorders to bridge to transplantation

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Malignant rhythm disorders are a common and life-threatening problem in patients suffering from endstage heart failure, awaiting heart transplantation. Most commonly ventricular tachycardia is the leading entity of malignant rhythm disorders in these patients, no matter what kind of underlying disease led to end stage heart failure. Rhythm instability might be exaggerated by the necessity of intravenous inotropic medication and can be interpreted as first signal of a progressively deteriorating cardiac function.

Although most patients are supported by ICD systems the combination of hemodynamic instability and rhythm disorders is highly life threatening. The option to optimize drug therapy is limited, due to the poor tolerance of high dose or combined antiarrhythmic therapy in the condition of impaired left ventricular function especially if already in need of i.v. catecholamines.

A severe circulus vitiosus occurs, if the patient needs more catecholamines to support myocardial contractility. This might initiate onset of concomitant rhythm disorders further deteriorating hemodynamic stability. Under these circumstances and in absence of improvement with intravenous drug therapy VAD implantation is the most common therapeutic approach. Several studies demonstrate that IABP implantation could decrease catecholamine levels by decreasing the left ventricular afterload and lead to less arrhythmias by improving the myocardial perfusion through a decreasing ventricular wall tension and increased coronary blood flow during diastole. This is in contrast with the results of the SHOCK trial dealing with acute cardiogenic shock patients.

To evaluate the effects of IABP support in patients with advanced and chronic terminal heart failure we retrospectively investigated 29 patients who underwent IABP implantation for rhythm disorders listed for heart transplantation and treated on our transplant ICU. Primary objectives have been survival, persistence of rhythm disorders, underlying disease, catecholamine dosage and necessity of VAD Implantation or orthotopic heart transplantation respectively.