**KIDNEY DYSFUNCTION IN PATIENTS RECEIVING PERCUTANEOUS LEFT VENTRICULAR ASSIST DEVICE**

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**Introduction:** Percutaneous implantable left ventricular assist devices (pLVADs) are increasingly used for short-term management of patients with advanced heart failure (AHF) due to their established salutary impact on hemodynamic status. Renal dysfunction is common in the setting of AHF and is associated with adverse outcomes. We sought to explore the available evidence on the prevalence of kidney disease pre-pLVAD implantation and the incidence of post-pLVAD acute kidney injury (AKI) in AHF patients.

**Methods:** Articles cited in PubMed database from Inception to January 2018 using key words “percutaneous left ventricular assist device” and “heart failure” were searched. Articles evaluating pLVAD in management of AHF were reviewed. Clinical trials that contained data on renal parameters were selected. Pertinent data including baseline renal function, definition of AKI, and incidence of AKI were extracted and recorded.

**Results:** A total of 295 citations were reviewed and after exclusion of duplicate articles, 13 clinical studies (including 5 randomized controlled trials) with 1491 participants were included. The two main indications for pLVAD implantation were cardiogenic shock and acute coronary ischemia. The mean age was 63 years, 73.7% were men, and the mean ejection fraction was 25%. Substantial variation existed across studies in the definition of AKI and the time to primary endpoint assessment. Pre-pLVAD kidney disease was present in 40.2% of the patients. The baseline serum creatinine level and eGFR were 1.35 mg/dl ± 0.3 and 53.4 ml/min ± 8 respectively. The incidence of AKI was reported in 8 studies and was between 5.8 and 40% (median 26% ±12.7).

**Conclusion:** We found that renal dysfunction is prevalent in patients referred for pLVAD therapy. Moreover, these data suggest that despite treatment of circulatory failure and consequent renal perfusion, a significant subset of patients develop AKI; a subset could be attributed to contrast use. Future studies are needed to identify the population at risk for renal complications after pLVAD implantation, and to explore management strategies aiming at preservation of renal function in these patients.