Evolution of renal function after partial and full mechanical support for chronic heart failure

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INTRODUCTION

Heart failure is a major public health problem affecting millions of people worldwide (1). Over the last few decades there has been an increase in the prevalence of heart failure (2-4). Heart failure is associated with an increased mortality, with 5-year survival rates of 41% to 60% (5, 6). Patients with end-stage heart failure have multiple comorbidities including end-organ failure and cardiac cachexia (7-9). Impairment in renal function in particular is shown to be an independent risk factor for mortality and re-hospitalization in heart failure patients and deterioration of renal function is often the driver to augment medical therapy (10). Over the last decade left ventricular assist devices (LVADs) have been increasingly used in end-stage heart failure (11). Both pulsatile and non-pulsatile LVADs have been shown to increase survival in patients with end-stage heart failure (12, 13). Despite early concerns regarding non-pulsatile flow, non-pulsatile LVADs have shown to improve end-organ function in patients with advanced...