

Name of Journal: *World Journal of Cardiology*

ESPS Manuscript NO: 25170

Manuscript Type: REVIEW

Novel role of phosphodiesterase inhibitors ¹⁶ in the management of end-stage heart failure

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Abstract

In advanced heart failure, chronic inotropic therapy with intravenous milrinone, a phosphodiesterase III inhibitor, is used as a bridge to advanced management that includes transplantation, ventricular assist device implantation, or palliation. This is especially true when repeated attempts to wean off inotropic support result in symptomatic hypotension, worsened symptoms, and/or progressive organ dysfunction. Unfortunately, patients in this clinical predicament are considered hemodynamically labile and may escape the benefits of guideline-directed heart failure (HF) therapy. In this scenario, chronic milrinone infusion may be beneficial as a bridge to introduction of evidence based HF therapy. However, this strategy is not well studied, and in general, chronic inotropic infusion is discouraged due to potential cardiotoxicity that accelerates disease progression and proarrhythmic effects that increase sudden death. Alternatively, chronic inotropic support with milrinone infusion is a unique opportunity in advanced heart failure. This review discusses evidence that long-term intravenous milrinone support may allow introduction of beta blocker (BB) therapy. When used together, milrinone does not attenuate the clinical benefits of BB therapy while BB mitigates cardiotoxic effects of milrinone. In addition, BB therapy decreases the risk of adverse arrhythmias associated with milrinone. We propose

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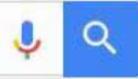
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