



PD009

Paediatric Cardiology & Congenital Heart Disease • Poster Presentation

RESCUE LEVOSIMENDAN IN PAEDIATRIC HEART FAILURE AND POSTOPERATIVE MYOCARDIAL DYSFUNCTION

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Background: Levosimendan is increasingly used as rescue therapy for paediatric myocardial dysfunction, but evidence supporting its effectiveness remains limited. We evaluated its use in critically ill paediatric cardiac patients who remained haemodynamically compromised despite conventional inotropic therapy.

Methodology: This retrospective observational study included 35 patients aged ≥ 18 years treated with levosimendan in a tertiary PICU between 2016 and 2024. Before levosimendan initiation, all patients had received conventional inotropes. Thirty percent had no prior cardiac intervention, whereas 70% had undergone congenital cardiac surgery. The primary outcome was survival to hospital discharge. Secondary outcomes included changes in ejection fraction, serum lactate, arterial pH, urine output, treatment timing, repeated dosing, and adverse events.

Results: Hospital survival was 49%. Median EF improved significantly following levosimendan therapy from 23.0% (IQR 16.75–31.25) to 26.75% (IQR 18.25–41.20; $p < 0.001$). Serum lactate, pH, and urine output showed no significant changes and were largely within physiological ranges at baseline. Neither repeated levosimendan administration ($p = 0.82$) nor timing of treatment ($p = 0.386$) influenced survival. Levosimendan was well tolerated, with hypotension occurring in three patients and tachycardia in one.

Conclusions: Rescue levosimendan improved ventricular systolic function but not survival, suggesting earlier intervention and better patient selection may be required to improve clinical outcomes.

Keywords: Levosimendan, Paediatric Heart Failure, Myocardial dysfunction, Rescue therapy, inotropes