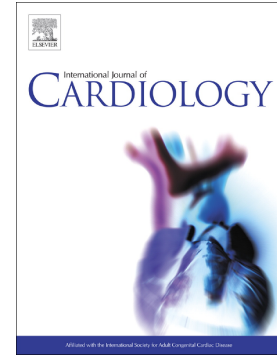


## Journal Pre-proof

Levosimendan or dobutamine in patients with low cardiac output syndrome: Results from meta-analysis

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## Levosimendan or dobutamine in patients with low cardiac output syndrome: results from meta-analysis

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To the Editor,

We read with great interest the article “Perioperative levosimendan in cardiac surgery: A systematic review with meta-analysis” by Putzu et al, where the authors found no beneficial effects of levosimendan on postoperative outcomes [1]. Putzu et al analysed both patients with normal and reduced ejection fraction, and compared levosimendan with placebo or no treatment [1]. Consequently, the pooled patient population was heterogeneous. We sought to determine the effects of levosimendan compared with dobutamine in the specific subgroup of patients with low cardiac output syndrome (LCOS).

Five studies were eligible for quantitative analysis. Methods are described in the **Supplementary File (SF)**. Compared with dobutamine, levosimendan decreased in-hospital (or 30-days) mortality (7.1% vs 17.3%; OR = 0.37; 95% CI: 0.21, 0.63; P < 0.001; I<sup>2</sup> = 0%; **Figure 1, SF**), was associated with lower risk of perioperative myocardial infarction and arrhythmias (**Table 1, SF**) and better hemodynamic parameters (**Table 2, SF**). Although levosimendan did not reduce the ICU length of stay (13.6 ± 8.1 vs. 14 ± 7.8 days; MD = -0.46; 95% CI: -2.73, 1.82; P = 0.33; I<sup>2</sup> = 0%), it was associated with shorter hospital stay (3.5 ± 0.9 vs. 9.9 ± 9 days, respectively; MD = -6.45; 95% CI: -8.28, -4.62; P < 0.001; I<sup>2</sup> = 0%).

Altogether, levosimendan decreased in-hospital mortality, was associated with less adverse events and shorter hospital stay in LCOS patients, compared with dobutamine. Our

meta-analysis highlights the urgent need to specify patient subpopulations who might truly benefit from levosimendan administration [2–4].

Supplementary data  
Supplementary material

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