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**Utility of the Inotropic and Vasoactive Score in the Analysis of Morbidity and Mortality in Pediatric and Neonatal Cardiac Surgery**

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**Objective**

To describe the morbidity and mortality associated with pediatric and neonatal cardiac surgery and to analyze the usefulness of the Vasoactive-Inotropic Score (VIS).

**Material and methods**

Retrospective and descriptive study. Patients undergoing cardiac surgery in a period of 19 consecutive months (2017-2018). A database with demographic, surgical and postoperative management variables was used. Surgeries were classified according to the STAT category [high (4-5) vs low (1-3)] and VIS (high ( $\geq 20$ ) vs low ( $< 20$ )).

**Results**

We analyzed 335 consecutive surgeries, 261 (78%) with extracorporeal circulation, in patients aged between 1 day and 18 years [91 (27.2%) neonates and 244 (72.8%) pediatric]. Sixty-eight (20.3%) were high STAT. 81.2% of the patients were extubated before 48 hours. The most used vasoactive drugs were milrinone and dopamine. Thirty-five (10.4%) had high VIS.

In pediatric patients, the ICU stay was longer in surgeries with high STAT [6 days (2-8,5)] vs low STAT [3 days (2-5)], ( $p = 0.08$ ); and in high VIS [16 days (7-23)] vs low VIS [3 days (2-5)], ( $p < 0.01$ ). In the neonates, no significant differences were observed, high STAT [17 days (7-31)] vs low STAT [9 days (7-20,75)], ( $p=0.06$ ); and high VIS [17 days (8,25-33,25)] vs low VIS [12 days (7-25)], ( $p=0.14$ ). Need for ECMO was reported in 5 (1.8%) patients, renal replacement therapy in 7 (2%) and diaphragmatic plication in 10 (2.8%). Nineteen patients were re-operated. Hospital mortality was 0.89%.

**Conclusion**

Our center has a low mortality rate in pediatric cardiac surgery. In pediatric patients, high STAT category and elevated VIS are associated with longer hospital stays. However, these differences are not observed in the neonatal population. Future studies should focus on optimizing the categorization of risk and surgical morbidity in neonatal patients.