

A Prospective Randomised Observational Study of Obstructed Total Anomalous Pulmonary Venous Connection (TAPVC) Repair Patients

Authors : Sanjeev Singh

Abstract : Background: Obstructed total anomalous pulmonary venous connection (OTAPVC) typically presents with severe cardiovascular decompensation and requires urgent surgical management. Pulmonary arterial hypertension (PAH) is a major risk factor affecting mortality. Perioperative management focuses on providing inotropic support and managing potential pulmonary hypertensive episodes. The aim of this study was to determine the outcome of patients with high pulmonary arterial pressure (PAP) with milrinone alone and a combination of milrinone and inhaled nitric oxide (INO). Material and Methods: After the approval of the ethical committee, this single-center prospective randomized and observational study was conducted over a period of two years among eighty-six patients with obstructed TAPVC repair with severe PAH. Group-I patients received milrinone, and Group-II patients received both milrinone (after aortic cross-clamp removal) and INO during the post-operative period at the cardiac care unit (CCU). Clinical outcomes such as ventilation time, length of stay (LOS) in the CCU, LOS in the hospital, complications, and hospital mortality were compared between the two groups. Result: The average ventilation time, LOS in CCU, and LOS in hospital for group I were 96.82 ± 19.46 hours, 10.91 ± 7.53 days, and 14.46 ± 7.58 days, respectively, and for group II, it was 85.14 ± 15.79 hours, 7.28 ± 3.68 days, and 10.21 ± 3.14 days, respectively, which was statistically significantly lower for group II. Reintubation, RV dysfunction, and hospital mortality were 16.3%, 37.2%, and 6.9% in group I, and 4.8%, 14.6%, and 2.4% in group II, respectively. The P value for each variable was significant < 0.05 (except mortality). Conclusion: Preoperative obstruction is a risk factor for postoperative obstruction, as 235 patients with obstructed TAPVC had severe PAH (39.98%) in this study. Management of severe PAH with a combination of milrinone and INO had a better outcome than milrinone alone.

Keywords : inhaled nitric oxide, milrinone, pulmonary artery hypertension, total anomalous pulmonary venous connection

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