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Titel des Beitrags: Analysis of the risk factors for early failure after extracardiac Fontan operation.

Abstract: We analyzed risks for severe morbidity in the early period after extracardiac Fontan operation. Between November 1995 and May 2011, 140 patients (median age, 3.8 years) underwent extracardiac Fontan operation. We assumed as preoperative risk factors systemic right ventricle (n=51), heterotaxia (n=25), arterial oxygen saturation less than 75% (n=22), and adult age (>16 years, n=20) at time of surgery. Prolonged cardiopulmonary bypass time of longer than 120 minutes (n=30) and use of cardioplegia (n=26) were analyzed as intraoperative risks. Heterotaxia was revealed as a risk factor for postoperative prolonged inotropic support, acute renal failure, prolonged mechanical ventilation, prolonged pleural effusions, and tachyarrhythmias. With the exception of pleural effusions, the same held true for right ventricle morphology. Low preoperative arterial oxygen saturation was found to be associated with an increased risk of prolonged inotropic support, acute renal failure, and prolonged mechanical ventilation. Adult age was identified as a risk factor for acute renal failure. Of the intraoperative factors, prolonged cardiopulmonary bypass time longer than 120 minutes was a risk factor for acute renal failure and prolonged pleural effusions, whereas use of cardioplegia was associated with an...
increased risk of prolonged inotropic support, prolonged mechanical ventilation, acute renal failure, and tachyarrhythmias. Multivariate analysis demonstrated heterotaxia, right ventricular morphology, and low preoperative arterial oxygen saturation to be independent risk factors for postoperative prolonged inotropic support and prolonged mechanical ventilation. Patients with heterotaxia, systemic right ventricle, and low preoperative arterial oxygen saturation are still at high risk for early Fontan failure after extracardiac Fontan operation and require special management for optimal outcome.