Fontan completion during winter season is not associated with significantly higher mortality or severe morbidity in the early postoperative period

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Objectives: Previous studies suggested that completion of total cavopulmonary connection (TCPC) during winter season was associated with higher early mortality and morbidity. The aim of our study was to compare postoperative outcomes after TCPC completion between patients who were operated during winter and summer season.

Methods: We retrospectively studied 173 patients who underwent extracardiac TCPC completion at our institution between 1995 and 2013. 61 (35%) patients were operated during winter (november-to-march) and 112 (65%) patients were operated during summer season (april-to-october). Baseline characteristics (e.g. age, sex, weight, preoperative oxygen saturation, ventricular morphology or presence of heterotaxy syndrome) were not significantly different between both groups. We compared the following postoperative outcomes: early mortality (i.e. within 30 days postoperatively), intubation time (hours), length of pleural effusions (days), incidence of low cardiac output (i.e. need for intravenous catecholamine therapy longer than 72 hours), intensive care unit (ICU) and hospital stay (days). Fisher’s exact test and Mann Whitney test were used for statistical analysis. Data are presented as percentage or median values, respectively.

Results: Early mortality (8% vs. 6%, p=0.76), incidence of low cardiac output (21% vs. 11%, p=0.09), intubation time (13.5 vs. 13 hours, p=0.19), length of pleural effusions (8 vs. 7 days, p=0.23) and ICU stay (4 vs. 3 days, p=0.22) were not significantly different between patients who were operated during winter and summer season. However, hospital stay was significantly longer in patients operated during winter season (16 vs. 14 days, p=0.048).

Conclusion: In our patient series, TCPC completion during winter season was not associated with higher mortality or severe morbidity in the early postoperative period. These results suggest that TCPC completion during winter season might be performed at no significant additional risk for patients.