

EMERGENCY DEPARTMENT UTILIZATION AFTER FONTAN PALLIATION

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Background: Children who undergo Fontan palliation pose unique challenges to providers relatively unfamiliar with their anatomy and physiology, such as physicians and other healthcare personnel working in the emergency department (ED). We aimed to describe ED utilization by children with Fontan physiology, which, to our knowledge, has not previously been reported.

Methods: An IRB-approved retrospective review was performed on patients with single ventricle anatomy who underwent Fontan palliation at three Midwest tertiary care institutions between January 1, 2009 and December 31, 2014, with follow-up until December 31, 2015. Data for those who utilized the ED were compared to those who did not using Mann Whitney U tests or χ -square tests as appropriate.

Results: We reviewed 157 patients who underwent Fontan palliation. Seventy-three of these patients (46%) required 351 ED visits during the study period, 20 (13%) of which occurred within 30 days of hospital discharge. One hundred twenty-four visits (35%) resulted in hospital admission, 30 resulted in ICU admission, 2 required direct transfer to the cardiac catheterization suite for immediate intervention, and 1 patient died in the ED. Age at Fontan surgery, dominant ventricle, type of Fontan surgery (i.e. lateral tunnel versus extracardiac), presence of a fenestration, presence of atrioventricular valve regurgitation, or postoperative length-of-stay patients were not statistically different in patients who required ED visits and patients who did not. Patients were more likely to require ED care however if they were discharged on an angiotensin-converting enzyme (ACE) inhibitor (51% versus 23%, $P=0.009$), whereas patients who were discharged on warfarin were less likely to require ED care (41% versus 61%, $P=0.027$).

Conclusions: Following Fontan palliation, nearly half of the patients required ED care, often presenting with high disease acuity requiring hospital admission. Patients discharged on ACE inhibitors may be at increased risk for necessitating ED visitation, while patients receiving warfarin may be at decreased risk. Further research is needed.