June 2022

Blood Pressure Response in Children with Heart Disease

Daisuke Kobayashi  
Wayne State University, dkobayas@dmc.org

Mara A. Darian  
Wayne State University, mara.darian@med.wayne.edu

Follow this and additional works at: https://digitalcommons.wayne.edu/som_srs

Part of the Medicine and Health Sciences Commons

Recommended Citation
https://digitalcommons.wayne.edu/som_srs/134

This Research Abstract is brought to you for free and open access by the School of Medicine at DigitalCommons@WayneState. It has been accepted for inclusion in Medical Student Research Symposium by an authorized administrator of DigitalCommons@WayneState.
Abstract:

**Background:** Cardiopulmonary exercise testing (CPET) has been utilized for the management of children with congenital heart disease. Blood pressure (BP) response is one of the important markers that may carry a prognostic implication and has not been well studied in children who underwent Fontan operation.

**Objective:** The aims are to evaluate the incidence of abnormal BP response and the association between BP response and mortality/transplant at follow up in children undergoing Fontan operation.

**Methods:** This was the retrospective study of 114 children status post Fontan operation, who underwent treadmill CPET at Children’s Hospital of Michigan. The study duration was 11 years (2009 – 2019). BP response was categorized to normal and abnormal (including hypotensive, blunted and hypertensive responses). The primary outcome was mortality/transplant at follow-up. Kaplan-Meier survival curve analysis was used to evaluate the association.

**Results:** Normal BP response was observed most frequently (n=73, 64%). The most common abnormal BP response was a blunted response (n=29, 25%), followed by hypotensive response (n=11, 9.6%). There were no cases of hypertensive response. At the mean follow up of 1843 days (range 1641 – 2045 days), there was 8 death/transplant (7 %). In the Kaplan-Meier survival analysis, there was no statistically significant association between abnormal BP response and death/transplant.

**Conclusion:** Our data showed the incidence of normal and abnormal BP response with CPET in children undergoing Fontan operation. In our cohort, abnormal BP response did not carry a prognostic implication for Fontan patients.

(236 words)

**Key Words:** Fontan operation, cardiopulmonary exercise testing, blood pressure response.