Improvement in echocardiographic and biomarkers after glucocorticoid therapy in infants with pulmonary hypertension

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Background

- Pulmonary hypertension (PH) in children is often associated with significant morbidity and mortality.
- Data in animal and human studies have shown the important role inflammation may have in the pathogenesis of PH.
- Limited evidence exists on the utilization of anti-inflammatory treatment in PH management.
- We assessed the effect of treating PH in infants with glucocorticoids using echocardiographic changes and diagnostic biomarkers as measures of efficacy.

Materials & Methods

- Retrospective chart review at St. Louis Children’s Hospital.
- Hospitalized infants <1 year of age with no significant intracardiac shunt
- 12 (70%) WHO Group 3 PH and 5 (30%) WHO Group 1 PH.
- 5-7 day course of systemic glucocorticoid treatment from January 1, 2017 to December 31, 2021.
- Quantitative echocardiographic indices for PH, N-terminal prohormone brain natriuretic peptide (NT-proBNP) or BNP levels were collected pre & post glucocorticoid treatment.

Results

- In this retrospective study, systemic glucocorticoid therapy was associated with significant improvement in BNP levels, PAAT, and PAAT/RVET ratio in infants with WHO Group 1 and 3 PH.
- These results provide impetus for further prospective studies to determine how glucocorticoids may provide benefit to this population of affected children.