Searching for Characteristics Associated with the Presence of Pulmonary Hypertension in Extremely Premature Infants

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BACKGROUND

- Late pulmonary hypertension (PH) has been described as sequela of bronchopulmonary dysplasia (BPD)
- Presence of late PH is associated with significant morbidity and mortality
- Pathogenesis of PH is influenced by numerous factors but determining which characteristics modify the risk is unknown

METHODS

- Late PH screening echocardiogram was obtained at 36 weeks PMA for all living infants born less than 28 weeks since 2017
- A retrospective cohort study of all infants born at <28 weeks who underwent late PH screening from 2017-2020 was completed
- Exclusion criteria: major congenital anomalies, extensive cardiac surgery
- Objective: To evaluate characteristics and their relationship to presence of late PH by 36 weeks post menstrual age (PMA) in premature infants born at < 28 weeks' GA
- Demographic and clinical characteristics were compared in relation to the infant's late PH status to assess for correlation with late PH

In this single center study, **gestational age**, **Black race**, **chorioamnionitis** and **BPD severity** were associated with presence of PH at 36 weeks post menstrual age.

RESULTS

- 72 extremely premature infants were included in the study
- 12 infants developed late PH (incidence = 17%)
- Infants with late PH were on average 0.68 weeks younger than infants who did not develop PH (p=0.029)
- Gestational age, Black race, chorioamnionitis and BPD severity were all associated with the presence of PH at 36 weeks PMA

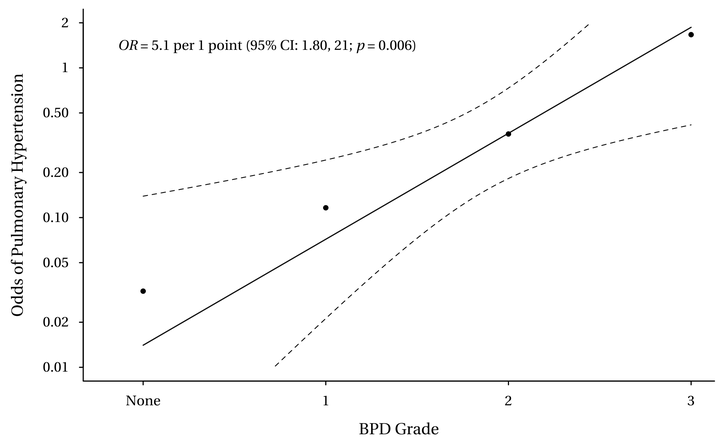

Fig 1 BPD grade by PH status

RESULTS cont.

- Other important characteristics neonatal care characteristics not associated with the presence of PH in this study included preterm premature rupture of membranes status, maternal pre-eclampsia, exposure to antenatal steroids, birth weight and PDA treatment of any type (medical or surgical)

CONCLUSIONS

- Incidence of late PH in extremely premature infants with BPD is comparable to previously reported incidence
- No infants without BPD had late PH
- Infants had a 5.1 times greater odds of having PH at 36 weeks PMA for each 1-point increase in BPD grade
- Additional studies are needed to determine the relationship between these additional characteristics and the pathophysiology of late PH

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