Abstract Title:
Erythropoietin treatment is associated with a reduced incidence of moderate to severe BPD in preterm infants. A regional retrospective study.

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Abstract Description:
INTRODUCTION: Advances in medical care have led to improved survival rates of extremely premature infants but the incidence of bronchopulmonary dysplasia (BPD) has not changed in the past 2 decades. Animal data suggests that erythropoietin treatment could ameliorate pulmonary alveolar development in neonatal models of BPD.

OBJECTIVE: to determine whether premature infants who received erythropoietin (EPO) in the neonatal period for anemia has a lower incidence of moderate to severe BPD than infants who did not.

METHODS: IRB approved retrospective cohort study of preterm infants born between 2009 and 2014 with birth weight (BW) 1500 grams or below and 23 to 32 weeks gestational age (GA) who survived to 36 weeks postmenstrual age. Patient characteristics, risk factors, comorbidities, treatment modalities and discharge outcome were compared between patients who received Epo and those who did not. Each risk factor was examined using univariate logistic regression. The adjusted odds ratio (AOR) and 95% confidence interval for BPD rate was derived from the multivariate logistic regression model, adjusting for all potential confounders.

RESULTS: The study included 1,821 infants: 928 received EPo and 893 did not. The patients in the Epo group had lower GA, BW and required higher initial respiratory support than the No-Epo group (p<0.01). Multivariate regression analysis adjusting for GA, BW, sex, respiratory
support mode, postnatal steroids, neonatal infections, and PDA, showed a reduction in moderate to severe BPD with Epo treatment (AOR 0.629, 95% CI 0.468-0.845).

CONCLUSION: Erythropoietin treatment was associated with a reduction in moderate to severe BPD in preterm infants.