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# Online estimator for Broncho Pulmonary Dysplasia (BPD) in Asian babies

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***Abstract***

**Introduction:** Continued high prevalence of Broncho Pulmonary Dysplasia (BPD) with its long-term morbidity favors development of an accurate BPD prediction model to enable preventative measures and improved counselling.

**Aims:** Primary aim of this study was to evaluate the validity of the modified NICHD scoring system for prediction of BPD/Mortality in Asian extremely low birth weight (ELBW) infants.

**Methods:** Cohort study of 318 live born ELBW infants between 2012 and 2015 at KKH, the centralized perinatal centre in Singapore. Demographic and neonatal data were collected and prediction model developed using gestational age, birth weight, race, gender, and maximal respiratory support and FiO2 requirement on postnatal days1, 3, 7, 14, 21, and 28 to evaluate outcome measure of BPD/Mortality.

Statistical analysis was done using STATA 15.0 with multinomial regression for development of C statistic -area under the curves (AUC) to validate the prediction model using the above variables of interest. A Web-based model was constructed for BPD/Mortality by postnatal day.

**Results:** Mean gestational age and birth weight of the cohort was 26.3 ± 2weeks and765 ± 145gms respectively with BPD, mortality and BPD/Mortality in 65%, 16% and 81% respectively. BPD/Mortality prediction improved with advancing postnatal age, increasing from AUCs of 0.992 on Day1 to 1.0 on Day28. Maximal respiratory support and FiO2 requirement served as the best predictors on each specified day (AUC 0.85-1).

**Conclusion:** Early prediction of BPD/Mortality was accurate with high AUCs from Day 1-28 and will be helpful in postnatal counselling and potentially in developing preventive respiratory strategies and quality improvement.

***Biography:***

Odattil Geetha has completed her MBBS from Calicut University and MRCPCH in 2005. She is a fellow of academy of medicine of Singapore since 30 April 2018. She holds the post of Consultant in KK Women's and Children's Hospital (KKH), Clinical Tutor with Yong Loo Lin School of Medicine, NUS and also Clinical Teacher, Lee Kong Chian School of Medicine and Adjunct Assistant Professor, DUKE-NUS Graduate Medical School, Singapore.

***Speaker Publications:***

1. Outcome of Prenatally Diagnosed Central Nervous System Malformations in a Tertiary Center in Singapore published in Pediatricreview: International Journal of pediatric Research (article no: IJPR 2016-424) August issue 2016 (in Volume- 3, Issue 8 of 2016.
2. Common skin conditions under Neonatalogy, Geetha Odattil, Mark Koh, 2015 Shui Yen SOH, Saumya JAMUAR, Janil PUTHUCHEARY, in The Baby Bear-Book 3rd edition, Red Cells Series, N.A, 374-376.

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