Biomarker potential of advanced glycosylated end-products levels at birth in premature infants with bronchopulmonary dysplasia

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Abstract

Background: Bronchopulmonary dysplasia (BPD) is the most common morbidity complicating preterm birth. The soluble receptor for advanced glycosylated end-products (sRAGE) is impilicated in the development of various disease such as pulmonary diseases. The objectives of this study were to evaluate the perinatal factors associated with serum sRAGE levels at birth and to establish whether serum sRAGE levels at birth could be potential biomarkers for BPD. Methods: A total of 124 subjects included 84 preterm and 40 healthy infants were included in this study. Among 84 infants born at less than 32 weeks were categorized into BPD neonates (n=34) and non-BPD infants (n=50). The median serum sRAGE levels in cord blood were measured using an enzyme-linked immunosorbent assay. Results: There were significant positive correlations between gestational age, birth weight, and serum sRAGE levels at birth. Among preterm infants born at less than 32 weeks, serum sRAGE levels at birth were significantly lower in infants with BPD than without. However, serum RAGE levels were not associated with severity of BPD. Conclusions: Serum sRAGE levels at birth were significantly correlated with BW and GA. Furthermore, serum sRAGE levels at birth could serve as a biomarker for predicting BPD, but not its severity.

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Figure 1

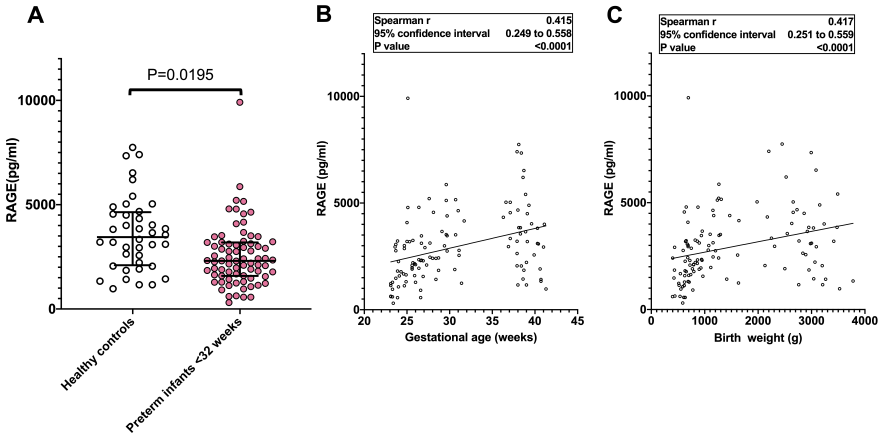

Figure 2

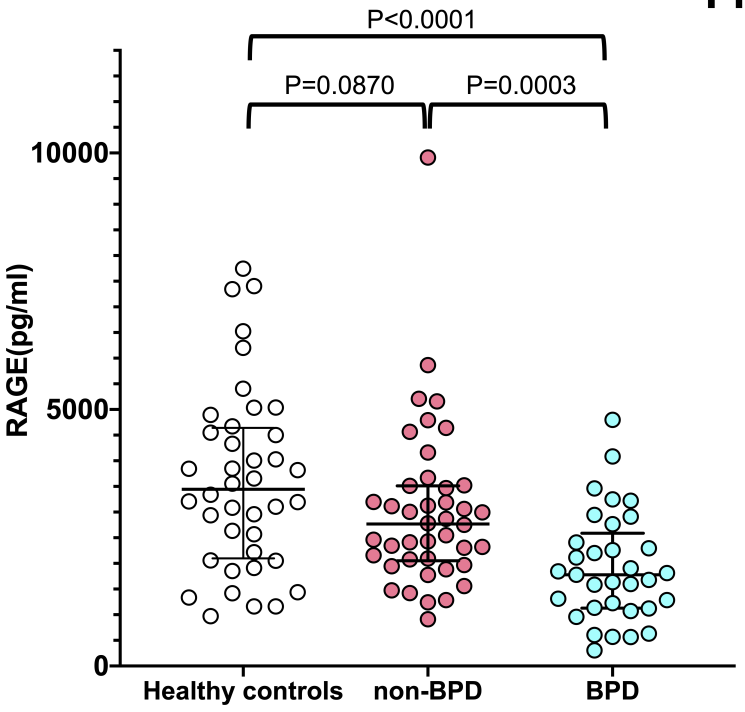

Figure 3