Title: Developmental outcomes of preterm infants with bronchopulmonary dysplasia-associated pulmonary hypertension at 18-24 months of corrected age

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Reviewer: Hidehiko Nakanishi

Reviewer's report:

Dr. Choi EK and colleagues studied 394 preterm infants (aged <28 weeks GA) cared for at a single center in Korea from 2005-2014 and stratified them by having BPD without PH and BPD with PH, especially focused on severe BPD. They then examined growth parameters and neurodevelopmental outcome at 3 years corrected gestational age. Infants with BPD and PH had poorer growth parameters and lower developmental quotients as measured by Bayley III.

This is consistent with previous work suggesting that infants with severe BPD have poorer growth and increased risk of neurodevelopmental delays.

Although these data are important, timely and relevant, a number of issues need to be addressed.

Major problems

1. Evaluation of clinical characteristics and short-term prognosis in PH infants

   - The authors examined only the patients who could be followed-up at 18-24 months of age to evaluate patient's characteristics and short-term prognosis during hospitalization. That should be a biased result, because there should be infants with BPD-associated PH even among 112 patients without follow-up data at 18 months of age. They should evaluate the clinical characteristics and short-term prognosis with the actual number of PH infants during hospitalization. That might be more informative to investigate the background of BPD with PH.

2. Long-term prognosis

   - Unfortunately, almost 50% of infants were lost to follow-up from their single center study, which might be difficult to interpret their results of long-term prognosis. Therefore, in their
study, worse-affected PH infants might have had higher rates of regular hospital follow-ups, which might have led to an overestimation of their long-term outcomes.

- The supplement data of differences in background between the PH infants with follow-up and those without follow-up should be helpful to support their results. This limitations and variations of these assessments should be discussed in more detail.

Minor problems
- The authors should speculate further on the reason that they did not observe SGA in association with BPD-PH, because this is in conflict with multiple other recent studies suggesting that SGA status is a strong predictor of the development of PH. Is this a racial/ethnic difference? They also report no cases of maternal hypertension in the BPD with PH group; could this have skewed the results?

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
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No

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