Reviewer’s report

Title: Emerging serotype III Sequence type 17 group B streptococcus invasive infection in infants: the clinical characteristics and impacts on outcomes

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Reviewer: Wenjing Ji

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Manuscript title: Emerging serotype III Sequence type 17 group B streptococcus invasive infection in infants: the clinical characteristics and impacts on outcomes.

Manuscript number: INFD-D-19-00204

This is a manuscript describing the serotype distribution, antimicrobial resistance, clinical features and molecular characteristics of invasive GBS isolates recovered from 182 GBS isolates that caused invasive disease in infants younger than one year of age in Taiwan, between 2003 and 2017. This paper is interesting because of lack of information about invasive GBS topic in Asian countries. Therefore, I think this is a much needed study and will provide valuable information regarding invasive GBS in infants in Taiwan.

I have listed points below for author's consideration.

1. **BACKGROUND**

* Line 67-69: "Group B Streptococcus (GBS) or Streptococcus agalactiae is a Gram-positive coccus found in 15% to 30% of healthy women as part of normal gastrointestinal and genital tract flora". Only two papers were cited here, please include more references to support the range.

* Similar suggestion for Line 71-76, authors cited reference 5-9 to state the invasive GBS could cause life-threatening infections in infants and long-term adverse outcomes. As I know, there are lots of high-quality papers indicating these two points, including meta-analysis and systematic review, can authors add some more important references in this field.

* It is better to clarify that if intrapartum prophylaxis for pregnant women was implemented in this study center.

2. **MATERIALS and METHODS**

* Line 93: "Between January 2005 and December 2017....." . I assume the study period should start from 2003 instead 2005, Please keep consistency in the manuscript.
* Line 93-95: "all young infants aged less than one year with invasive GBS diseases were enrolled and their data were retrieved retrospectively from the database of Chang Gung Memorial Hospital (CGMH)", it is unclear about the database of CGMH, if cases of GBS were identified based on laboratory, or clinicians or from both?

* Line 98-101: Classification of invasive GBS disease in infants also needs citation.

* Line 108-117: Why did authors only state the definition for Meningitis, how about the definitions for other clinical manifestations such bacteremia, pneumonia, septic shock, etc. in the Table 2.

* Please add information about if all the samples were collected before antibiotics given to infants.

3. RESULTS

* Line 160-161: "In this 15-year study period, we found a significant increase in serotype III in young infants with invasive GBS diseases (Figure 1)". The figure 1 described the percentage of serotype, please provide the GBS case number as well. Furthermore, it will be better if authors can add the 95% CI for percentage in the figure 1 and figure 2.

* Line 170-172: "and 29 (15.9%) had neurological complications. Among those who survived and with neurological complications, 14(45.4%) had long-term neurological sequelae at discharge". What is the definition for neurological complications and long-term neurological sequelae? My understanding is long-term neurological sequelae needs to be observed for longer time after discharge, at least months later from discharge.

* Line 185: "All STs have been identified in the database". Please clarify what database.

* Line 191-193: Please add the case number and 95%CI for the percentages.

* Line 200-205: Please add the case number with the percentages.

4. DISCUSSION

* Line 215-218: "Although type III GBS strains accounted for more than half of neonatal meningitis in the cohort, it appeared to be unrelated to the worst prognosis. On the contrary, type Ib and……". I think that it is a bit risky to come to this conclusion, same issues for Line 235-244. I suggest authors read more literatures and give a more appropriate statement.

* Line 215-218: replace out cohort with "our cohort".

* Line 249-250: "The overall mortality in out cohort was 6.6%, which was lower than the average mortality in other countries....." Any reasons to explain these differences?
* Line 250: "average mortality of 9.6%....". This data has already been updated in 2017, the mortality was 8.4%, please cite the latest paper published in Clinical Infectious Disease, the first author is Lola Madrid.

* Line 261-275: This paragraph described high resistant rate of erythromycin and clindamycin. As we know, the rise of Fluoroquinolones-resistant GBS have been reported in some studies. It will be preferred if the authors have FQ-resistant data to add.

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

Yes

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

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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