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O1030 Antibiotic susceptibility of bacterial aetiological agents causing early-onset neonatal sepsis in Bukavu, Democratic Republic of Congo

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Antibiotic susceptibility of bacterial etiological agents causing early-onset neonatal sepsis in Bukavu, Democratic Republic of Congo.

Background.

Early-onset neonatal sepsis is among the leading causes of neonatal mortality and causes half a million deaths yearly. More then 99% of these cases are in Sub-Saharan Africa (SSA) and Asia. In high-income countries (HIC), most common causative agents are Group B *Streptococcus* and *Escherichia coli*. However, data on the etiology and antibiotic susceptibility pattern of pathogens causing early-onset sepsis in SSA are largely lacking, and the role of antibiotic resistance remains unclear. However, these data are crucial to design, refine and implement strategies aiming at reducing neonatal mortality. Our goal was to assess the etiological agents of neonatal sepsis, and their antibiotic susceptibility patterns, in South Kivu (Democratic Republic of Congo (DRC)), a region where neonatal mortality rates are among the highest in SSA.

Methodology.

In a prospective hospital-based in Bukavu (South Kivu, DRC), we collected strains of laboratory confirmed cases of early-onset neonatal sepsis by means of blood culture. We further typed all strains by means of whole-genome sequencing and determined the antibiotic susceptibility patterns of isolates.

Results.

A total of fifty cases of laboratory confirmed early-onset neonatal sepsis were identified from 660 neonates with possible serious bacterial infection. The most prevalent species were *Enterobacter cloacae* (42%) and *Klebsiella pneumoniae* (18%). All *Enterobacter* strains were resistant to cefotaxime, ampicillin and gentamicin. A total of 89%, 100% and 78% of *Klebsiella* strains were resistant to cefotaxime, ampicillin and gentamicin, respectively.

Conclusions.

The main pathogens causing early-onset neonatal sepsis in Bukavu (DRC) are different then pathogens causing early-onset sepsis in HIC. Current WHO guidelines for the treatment of neonatal sepsis in low-income countries recommend combinations of cefotaxime, ampicillin and/or gentamicin but are ineffective as treatment for neonatal sepsis in current study population. More appropriate adjusted local guidelines are needed.