

P2440 Neonatal sepsis caused by *Escherichia coli* and group B *Streptococcus*: a 10-year reviewJakob Armann*¹, Maren Doenhardt¹, Reinhard Berner¹¹ University Children's Hospital, Dresden, Dresden, Germany

Background: Neonatal sepsis is a major cause of neonatal mortality and morbidity. *Escherichia coli* and Group B *Streptococci* (GBS) are the most common etiologic pathogens. Intrapartum antimicrobial prophylaxis has reduced the rates of GBS disease. The impact on *E. coli* sepsis especially in preterm infants remains unclear.

Materials/methods: Retrospective chart review and analysis of clinical, epidemiological and microbiological data of all infants < 3 months with a positive blood culture for *E. coli* or GBS at our institution between January 2008 and August 2018.

Results: We identified 67 cases of *E. coli* sepsis and 29 cases of GBS sepsis in 10 years (Ratio 2,4:1). Based on each individual year the ratio between *E. coli* and GBS disease ranged from 1:1 to 7:1 without clear trend. Boys were significantly more likely to develop neonatal sepsis caused by both bacteria (1,5:1) or individually (*E. coli* (1,4:1), GBS (1,9:1)) than girls. *E. coli* caused sepsis predominantly in preterm infants (76%) with roughly equal distribution between early onset (EOS) and late onset disease (LOS) whereas GBS sepsis was more frequent in term infants (72%) and two third of the cases were EOS. Mortality was 5% overall and did not differ between *E. coli* (5%) and GBS (7%). Meningitis was diagnosed in 14% of the cases, however, more common in GBS sepsis (28%) than *E. coli* sepsis (7%).

All GBS isolates were sensitive to penicillin. Sensitivity of *E. coli* isolates to ampicillin, a third generation cephalosporin, aminoglycosides and carbapenems were 45%, 90%, 95% and 100% respectively. Ampicillin sensitive Isolates increased over time (33% to 66% from 2012 - 2018)

Microbiological screening of the infants identified the etiologic pathogen overall in 66% of cases (*E. coli* 71%, GBS 56%).

Conclusions: Intrapartum antimicrobial prophylaxis does not seem to increase the rate of *E. coli* neonatal sepsis. Male gender is a risk factor for neonatal sepsis. *E. coli* causes disease predominately in preterm infants whereas GBS causes disease more likely in term infants. Neonatal colonization is a reasonable predictor of the etiologic pathogen of sepsis. No increase in antimicrobial resistance could be seen over time.

