

# Early-onset meningitis with delayed presentation: Is there a role for prevention?

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In their valuable study, Snoek and co-workers<sup>1</sup> reported 88 infants ( $\leq 3$  days old, gestational age  $\geq 34$  weeks) with early-onset sepsis (EOS) and/or meningitis (EOM) due to group B streptococcus (GBS,  $n = 81$ ) or E.coli ( $n = 7$ ). Cases came from the Dutch prospective nationwide cohort study (2018–2021). Actual treatment performed under Dutch guidelines was compared with hypothetical indications from NICE guidelines and the US early-onset sepsis calculator (EOSC). EOSC would have led to delayed antibiotic treatment in significantly more cases than Dutch and NICE guidelines. However, the proportion of uninfected neonates exposed to antibiotics should also be considered, given the potential long-term consequences of neonatal intestinal dysbiosis.<sup>2</sup> This question was unaddressed in the study, but one UK network reports high rates of neonatal antibiotic treatment (14%) with NICE guidelines (from which Dutch guidelines are adapted).<sup>3</sup>

Despite the very inclusive criteria for treatment under the Dutch guidelines, the overall percentage of culture-proven EOMs (13%) was higher compared with US areas adopting a maternal prenatal screening (~6%).<sup>4</sup> Most EOMs (90%) occurred in infants who were not started on treatment until after 24 h of age: we wonder if these EOMs with delayed presentation had been exposed to intrapartum antibiotic prophylaxis (IAP). Indeed IAP, by lowering colony counts in GBS-colonized mothers, protects neonates from infection that would be acquired during passage through the birth canal.<sup>5</sup> Thus, IAP-exposed neonates who are healthy-appearing at birth are less likely to develop GBS-EOS and EOM with delayed presentation. Identification and intrapartum treatment of GBS colonized women prevents almost all EOMs.

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Abbreviations: EOS, Early-onset sepsis; EOM, Early-onset meningitis; GBS, Group B streptococcus; EOSC, Early-onset sepsis calculator; IAP, Intrapartum antibiotic prophylaxis

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## Authorship statement

All authors substantially contributed to the work. Prof. Berardi conceptualized the letter, drafted the initial manuscript, reviewed and edited it and supervised the study. Dr. Miselli contributed to conceptualization, drafted the initial manuscript and reviewed and edited it. Dr. Lugli, Bedetti and Zinani contributed to conceptualization, and reviewed and edited the manuscript.

All authors gave final approval of the version to be published and agree to be accountable for all aspects of the work.

## Declaration of interests

None to declare.

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