Pediatr Ther 2018, Volume 8
DOI: 10.4172/2161-0665-C1-052

Use and abuse of antibiotics for suspected neonatal early-onset sepsis: Strategies and challenges

Martin Stocker
Children's Hospital Lucerne, Switzerland

Antibiotics are among the most often used medications in the neonatal intensive care unit. Up to 90% of antibiotics are given for culture-negative situations and a high variance of antibiotic use suggests relevant overuse. Annually, approximately 395`000 neonates (7.9% of live term births) are treated for suspected early-onset sepsis in the European Union, while the incidence of proven infection varies between 0.01 and 0.53 per 1000 live births. Recently published studies underline that antibiotic treatment in early life has an impact on the individual microbiome with potential consequences for future health. On the other hand, despite advances in perinatal care, neonatal sepsis remains a major cause of mortality, with an estimated toll of over 400'000 annual deaths worldwide. Therefore, antibiotic therapy for suspected infection is often started due to safety reasons. Guidelines, biomarker-guided therapy, and antibiotic stewardship programs are possible strategies to safely overcome the relevant overuse of antibiotics in the neonatal intensive care unit. Unfortunately, current published guidelines for management of neonatal early-onset sepsis are contradictory and adherence to guidelines is usually poor. Pragmatic approaches to minimize overtreatment in neonates with suspected early-onset sepsis, using combined stratified risk algorithms, based on maternal and perinatal risk factors, clinical characteristics of the neonate and sequential biomarkers were recently published and show promising results. Additionally, antibiotic stewardship programs were recently published showing a significant and safe reduction of antibiotic use in neonatal care.

martin.stocker@luks.ch