

MEETING ABSTRACT

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Chorioamnionitis and neonatal outcome: early vs late preterm infants

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Chorioamnionitis (CA) describes an intrauterine status of inflammation and/or infection of placental membranes, referring to both histological and clinical CA [1]. It is considered the major risk of spontaneous preterm delivery, especially at earlier gestational age. The intrauterine exposure to infection/inflammation leads to the fetal inflammatory syndrome (FIRS) that together with CA is responsible for multiple organ injury, neonatal morbidity and mortality [2]. Strong evidences support that neonates exposed to CA are sicker at birth, have a higher rates of early-onset sepsis, respiratory distress syndrome (RDS), bronchopulmonary dysplasia (BPD), intraventricular hemorrhage (IVH), retinopathy of prematurity (ROP), patent ductus arteriosus (PDA) and surgical necrotizing enterocolitis (NEC) as compared with unexposed neonates [3-6]. Neonates with ≤ 28 weeks of gestational age (GA) have a significantly higher mortality than neonates with a longer gestation period [7]. Recently Pappas et al reported an increased odds of cognitive impairment and death/neurodevelopmental impairment in extremely low birth weight (ELBW) exposed to CA [8]. In infants born at 36 weeks or later in gestation CA has been identified as an independent risk factor of CP [9]. Lee et al highlighted that acute histologic CA is a risk factor for adverse neonatal outcome in late preterm birth after preterm premature rupture of membranes (PPROM) [10]. Nevertheless, the effects of CA on the neonatal outcome remain under debate, because gestation-independent effects of CA on neonatal outcomes are difficult to assess. Thus in some studies at adjusted analyses for GA, the adverse impact of CA on neonatal outcome is not confirmed [11]. Additionally in many study groups discrimination between ELBW and late preterm infants is not considered. In the future, sufficiently powered cohort

studies and well-matched case-control studies will be able to provide useful informations regarding the different outcome between extremely and late preterms infants. An adequate antenatal screening and treatment for CA will improve the prognosis for infants at risk of multiple organ disease as a result of exposure to infection/inflammation before birth [12-14].

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References

1. Hagberg H, Wennerholm UB, Savman K: **Sequelae of chorioamnionitis.** *Curr Opin Infect Dis* 2002, **15**:301-306.
2. Gotsch F, Romero R, Kusanovic JP, Mazaki-Tovi S, Pineles BL, Erez O, Espinoza J, Hassan SS: **The Fetal Inflammatory Response Syndrome.** *Clinical Obstetrics and Gynecol* 2007, **50**(3):652-683.
3. Galinsky R, Polglase GR, Hooper SB, Back MJ, Moss TJ: **The Consequences of Chorioamnionitis: Preterm Birth and Effects on Development.** *J Pregnancy* 2013, **2013**(2013):412831.
4. Bersani I, Thomas W, Speer CP: **Chorioamnionitis – the good or the evil for neonatal outcome?** *The Journal of Maternal-Fetal and Neonatal Medicine* 2012, **25**(Suppl 1):12-16.
5. Seliga-Siwecka JP, Kornacka MK: **Neonatal outcome of preterm infants born to mothers with abnormal genital tract colonisation and chorioamnionitis: A cohort study.** *Early Human Development* 2013, **89**:271-275.
6. Been JV, Lieveense S, Zimmermann LJJ, Kramer BW, Wolf TG: **Chorioamnionitis as a risk factor for Necrotizing Enterocolitis: A Systematic Review and Meta-Analysis.** *J Pediatr* 2013, **162**:236-42.
7. Stimac M, Vukelic V, Perusko Matasic NP, Kos M, Babic D: **Effect of chorioamnionitis on mortality, early onset neonatal sepsis and bronchopulmonary dysplasia in preterm neonates with birth weight of $\leq 1,500$ grams.** *Coll. Antropol* 2014, **38**(1):167-171.
8. Pappas A, Kendrick DE, Shankaran S, Stoll BJ, Bell EF, Laptook AR, Walsh MC, Das A, Hale EC, Newman NS, Higgins RD, Eunice Kennedy Shriver National Institute of Child Health and Human Development Neonatal Research Network: **Chorioamnionitis and Early Childhood Outcomes Among Extremely Low-Gestational-Age Neonates.** *JAMA Pediatr* 2014, **168**(2):137-147.
9. Wu YW, Escobar GJ, Grether JK: **Chorioamnionitis and cerebral palsy in term and near-term infants.** *JAMA* 2003, **290**:2677-2684.
10. Lee SM, Park JW, Kim BJ, Park CW, Park JS, Jun JK, Yoon BH: **Acute Histologic Chorioamnionitis Is a Risk Factor for Adverse Neonatal Outcome in Late Preterm Birth after Preterm Premature Rupture of Membranes.** *PLoS One* 2013, **8**(12):e79941.

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11. Mitra S, Aune D, Speer CP, Saugstad OD: **Chorioamnionitis as a Risk Factor for Retinopathy of Prematurity: A Systematic Review and Meta-Analysis.** *Neonatology* 2014, **105**:189-199.
12. Popowski T, Goffinet F, Maillard F, Schmitz T, Leroy S, Kayem G: **Maternal markers for detecting early-onset neonatal infection and chorioamnionitis in cases of premature rupture of membranes at or after 34 weeks of gestation: a two-center prospective Study.** *BMC Pregnancy and Childbirth* 2011, **11**:26.
13. Tita ATN, Andrews WW: **Diagnosis and Management of Clinical Chorioamnionitis.** *Clin Perinatol* 2010, **37**(2):339-354.
14. Been JV, Degraeuwe PL, Kramer BW, Zimmermann LJ: **Antenatal steroids and neonatal outcome after chorioamnionitis: a meta-analysis.** *BJOG* 2011, **118**:113-122.

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