

P2445 Association between newborn’s nasopharyngeal colonisation at birth and development of early onset neonatal sepsis: a prospective cohort study

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Background: Neonatal sepsis is one of the major causes of morbidity and mortality in neonates. Exposure to maternal bacteria during pregnancy or during delivery process makes the normal upper airway colonized and becomes the major ecology of bacterial species. If the colonized bacteria invade into the bloodstream, early onset neonatal sepsis (EONS) could occur. This study aimed to evaluate the association between colonization in newborn’s nasopharynx and EONS and the concordance of the colonization with blood culture isolate

Materials/methods: This prospective cohort study was conducted in DR Wahidin Sudirohusodo General Hospital and its satellite hospital from January – June 2016. Nasopharyngeal swab culture was taken from the newborn baby who met the inclusion criteria within 2 hours of life and then follow-up for signs of EONS.

Results: of the 100 newborns, 69(69%) had nasopharyngeal bacterial colonization, which 5.8% (4/69) experienced EONS, and the remaining 31 (31%) who carried no colonization, 9.7% (3/31) experienced EONS. There was no significant difference in frequency of EONS between newborns with colonization and those who were not (p=0.674). Gram negative bacteria were predominant among colonizing newborn, but there was no significant difference between gram negative and gram-positive bacteria as a causative agent of EONS (p=0.645). The concordance between nasopharyngeal colonization with blood culture isolate was found in only one patient (25%) with EONS.

Conclusions: Most of the EONS cases occur on subjects without nasopharyngeal colonization and most of the organism isolate from blood culture were not similar with the colonization. Therefore, newborn’s nasopharyngeal colonization at birth did not associate with EONS.

The Correlation between Nasopharyngeal Bacterial Colonization and EONS

Variable	Group	Total	
	With colonization	Without Colonization	
EONS (n=7)	4(5.8%)	3 (9.7%)	7 (7.0%)
Not EONS(n=93)	65 (94.2%)	28 (90.3%)	93 (93.0%)
Total	69 (100%)	31 (100%)	100 (100%)

Test X 2 Chi-square OR = 0.574 CI 95% (0.121 to 2.736) p = 0.674

13-16 APRIL 2019 AMSTERDAM, NETHERLANDS
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