

SUMMARY

Introduction: Vaginal infections belong to important risk factors affecting the course of pregnancy. The most important complications are pre-term delivery syndrome and premature rupture of membranes (PROM) which are related to severe mothers and newborns pathology.

Target of the study: Systematic data processing for evaluation of the genital micro-flora and its relationship to PROM and intraamniotic infection. Examination of umbilical cord inflammatory markers as a screening for newborns at risk of early-onset neonatal sepsis.

Type of the study: A prospective clinical study

Methods: The group included 152 women and 152 newborns. The women were divided into 3 groups: group A – women admitted with PROM after completed 37th week of pregnancy (52); group B – women with pre-term PROM before completed 37th week of pregnancy (47); group C – women without PROM, delivering after 37th week of pregnancy (53). At admission, cultivation urine examinations, vaginal smears for microscopic, mycological, and parasitological examinations and examinations for mycoplasmata and ureaplasmata, and cervical smears for examination of chlamydia were provided. After delivering the foetus and cutting the umbilical cord, the mother venous blood was sampled for C-reactive protein (CRP) examination and the umbilical blood was sampled for IL-6, IL-8, TNF- α and sICAM-1 examination. The placenta was histologically examined for chorioamnionitis.

Results: MOP I was more frequent in women without PROM ($p < 0,0001$). MOP VI was more frequent in women with PROM ($p < 0,01$). *Streptococcus viridans* was associated with higher risk of early-onset neonatal sepsis ($p < 0,001$). *Escherichia coli* was associated with more frequent histological finding of chorioamnionitis or funisitis ($p < 0,002$). In chorioamnionitis or funisitis was higher risk of early-onset neonatal sepsis ($p < 0,001$, $p < 0,0001$). Sensitivity and specificity of inflammatory mediators used for screening for newborns at risk of early-onset neonatal sepsis was: IL-6 (80 %, 97 %), TNF- α (36 %, 94 %), IL-8 (87 %, 97 %), sICAM-1 (83 %, 95 %).

Conclusion: In our study *Streptococcus viridans* was associated with higher risk of early-onset neonatal sepsis and *Escherichia coli* was associated with more frequent histological finding of chorioamnionitis. Sensitivity and specificity of IL-6, IL-8, TNF- α a sICAM-1 for screening of the early-onset neonatal sepsis risk were determined.

Key words: vaginal microflora – intraamniotic infection – PROM – pPROM – chorioamnionitis – cytokines – early onset neonatal sepsis – screening