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Long acting penicillin use in pregnant females with history of unexplained pre-labor rupture of membranes

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Background: Different mechanisms were proposed for spontaneous rupture of the membranes. Bacteria living in genital tract may ascend through the cervical canal causing localized inflammation producing proteolytic enzymes that can weaken the membranes. Group B Streptococcus colonizes the vaginal and gastrointestinal tracts adhering to vaginal mucosal cells exposing the unborn infant to the risk of vertical transmission causing perinatal and neonatal mortality and morbidity. Penicillin's were used in the pooled trials showing benefits of antibiotics in this context.

Objectives: Evaluation of penicillin as a prophylaxis against bacterial colonization and recurrent pre-labor rupture of membranes.

Study Design: Pregnant females with positive past history of unexplained pre-labor rupture of membranes were selected from antenatal clinic from December 2017 to December 2018. Clinical, ultra-sonographic and microbiological examination of vaginal swabs were done. Microbiologically negative females (144) were divided into two groups each of 55 cases: group A received long acting penicillin as monthly I.M injection and group B received placebo. Swabs were repeated monthly till 36 weeks gestation with follow up for occurrence of pre-labor rupture of membranes, or bacterial colonization.

Statistical analysis: Method of randomization: The allocation sequence was generated using permuted block randomization technique with variable block size. Allocation sequence/code 3 was concealed from the person allocating the participants to the intervention arms using sealed opaque envelopes.

Blinding: Double blinded approach was adopted. Masking/blinding was employed to participants, and analysis team. Data were collected and entered to the computer using SPSS program for statistical analysis as numerical or categorical.

Results: Primary outcome is prevention of recurrent Pre-labor rupture of membranes. Secondary outcome is prevention of bacterial colonization, Pre-labor rupture of membranes occurred in 13 cases ($p=0.140$ NS); nine in group B and 4 in group A, although considerable but not statistically significant. Bacterial colonization occurred in 14 cases ($p=0.004^*$); two in group A and 12 in group B, which is statistically significant.

Conclusion: Penicillin was statistically significant in preventing bacterial colonization but not in preventing recurrent pre-labor rupture of membranes.

Key words: Penicillin, bacteria, pre-labor rupture of membranes.

Biography

Dr. Eman Aly Abd El Fattah is a assistant professor of obstetrics and gynecology Alexandria faculty of medicine ,EGYPT since 2015. Lecturer of obstetrics and gynecology at the same faculty since 2012. Doctorate degree in high risk pregnancy and infertility 2012. Researcher in infertility and high-risk pregnancy since 2007. Researcher in feto-maternal medicine since 2002. Master's degree in obstetrics and gynecology 2000. Resident at El-shatby maternity university hospital from 1996 to 2000. Mbbch of medicine 1995.

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