Does Cervical Ripening Via Intracervical Balloon Placement Increase the Risk of Chorioamnionitis in Patients with Premature Rupture of Membranes at Term?

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Does Cervical Ripening Via Intracervical Balloon Placement Increase the Risk of Chorioamnionitis in Patients with Premature Rupture of Membranes at Term?

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Material and Methods:
A retrospective cohort study was performed of singleton intrapartum gestations with term premature ruptures of membranes requiring cervical ripening who were induced and delivered at Lehigh Valley Health Network from July 2009 to June 2012.

Inclusion Criteria:
Exposed (Study) Group: Patients with a singleton gestation admitted with term premature ruptures of membranes at ≥37 weeks gestation
Cervical ripening with intraamniotic balloon placement (ICB)
Complete records of the pregnancy and delivery within our network

Non-exposed (Study) Group: Patients with a singleton gestation admitted with term premature ruptures of membranes at ≥37 weeks gestation
Cervical ripening with non-mechanical methods (oxytocin, misoprostol)
Complete records of the pregnancy and delivery within our network

Exclusion Criteria:
• Gestational age less than 37 weeks gestation
• Induction of labor for indications other than PROM
• Multi-fetal gestations in either exposed or control group
• Major fetal anomalies in either exposed or control group
• Anecdypisia in either exposed subjects or control group
• Incomplete pregnancy and delivery information
• Diagnosis of chorioamnionitis at the time of admission for PROM

Primary Outcome:
The rate of chorioamnionitis in women induced with term PROM by ripening method (mechanical vs. non-mechanical).

Secondary Outcomes:
The rate of cesarean delivery, length of first and second stage of labor and neonatal outcomes by ripening method.

Results:
• 129 patients met criteria for study analysis
– 43 (33.3%) patients were ripened with an ICB
– 86 (66.7%) patients were ripened with non-mechanical methods

The primary outcome, chorioamnionitis, was slightly higher in women ripened with an ICB (30.2%) vs. other methods (16.3%), with a trend towards statistical significance. Overall intrapartum and postpartum complications were similar between both groups (data not shown).

Conclusion:
In our retrospective cohort study, the rate of chorioamnionitis was higher in women induced with an ICB. However, after adjusting for potential confounders, the risk of chorioamnionitis was explained by nulliparity and IUPC use, not by the use of a mechanical ripening method. Our study is limited by its retrospective nature and its sample size. Therefore, larger prospective studies are needed to evaluate the potential contribution of ICB and IUPC use towards the development of chorioamnionitis in nulliparous women undergoing cervical ripening after term PROM.