Amniotic fluid prostaglandin E2 in pregnancies complicated by preterm prelabor rupture of the membranes

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Objective: To determine amniotic fluid prostaglandin E2 levels in women preterm prelabor rupture of the membranes with respect to microbial invasion of the amniotic cavity (MIAC), intraamniotic inflammation (IAI), microbial-associated IAI, histological chorioamnionitis, and short-term neonatal outcome. [1-10]

Methods: One hundred forty-five women with singleton pregnancies were included in this study. Amniotic fluid samples were obtained by transabdominal amniocentesis and were assayed for prostaglandin E2 levels by ELISA. IAI was defined as amniotic fluid interleukin-6 > 745 pg/mL. Microbial-associated IAI was defined as the presence of both MIAC and IAI.

Result: No differences in prostaglandin E2 levels were found between women with and without MIAC (p=0.27). Women with IAI (with IAI: median 214.8 pg/mL vs. without IAI: median 113.2 pg/mL; p=0.0008) and microbial-associated IAI (with microbial-associated IAI: median 214.3 pg/mL vs. without microbial-associated IAI: median 114.5 pg/mL; p=0.01) had higher levels of prostaglandin E2 level than women without these conditions in crude analysis, as well as after adjustment for gestational age at sampling (p<0.0001 for both). Women with histological chorioamnionitis had higher prostaglandin E2 levels only in crude analysis (p=0.02), but not after adjustment for gestational age at sampling (p=0.10). No associations between amniotic fluid prostaglandin E2 concentrations and short-term neonatal morbidity was found.

Conclusions: In conclusion, the presence of IAI or microbial-associated IAI is associated with higher amniotic fluid PGE2 concentrations in women with preterm prelabor rupture of membranes.
References


