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## Associations between preterm birth and maternal-newborn ABO Blood Phenotype Pair: A retrospective case-control study

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**Background:** Maternal-fetal ABO incompatibility is associated with spontaneous abortion. Spontaneous abortion puts subsequent pregnancies at risk of preterm birth. Our aim to study whether preterm birth is associated with maternal-newborn ABO blood phenotype pairs.

**Study design:** This was a 1:2 retrospective case-control study. A total of 1,089 consecutive live singleton preterm births (<37 weeks) between August 2005 and May 2011 formed the case group. A total of 2,232 consecutive live singleton term births (≥37 weeks) between May 2008 and April 2009 formed the control group. We extracted data on the mothers and their newborns from our neonatal electronic database and delivery room log book. We extracted ABO blood phenotypes using Cerner Lab Information System Software. We used a Chi square test to study the association between preterm birth and 14 maternal-newborn ABO pairs. We used maternal-newborn O-O pair as the reference group. We used a binary logistic regression analysis to adjust for nine risk factors for preterm birth.

**Results:** Preterm birth was associated with only maternal-newborn pairs B-A (odds ratio: 2.22, 95% confidence interval: 1.20-4.11, P=0.01) and AB-B (odds ratio: 1.80, 95% confidence interval: 1.04-3.12, P=0.03). Both associations remained significant in the regression analysis.

**Conclusion:** Preterm birth is associated with two maternal-newborn ABO pairs, B-A and AB-B. These findings require further confirmatory study.

### Biography

Dr. Sameer Al-Abdi has completed his neonatal-perinatal fellowship program at University of Calgary and University of Toronto, Canada in 2005. He is a consultant neonatologist at King Abdulaziz Hospital, Al-Ahsa area, Saudi Arabia. He is the director of electronic neonatal database at King Abdulaziz Hospital. He has published several papers in reputed journals and serving as an editorial board member of new peer-reviewed scientific journal called Journal of Clinical Neonatology.