2021 RANZCOG Virtual Annual Scientific Meeting 15-18 February

A Prospective Cohort Study to Assess the Association Between Early Pregnancy Bleeding and Poor Pregnancy Outcome in a South-East-Asian Tertiary Hospital

Samarakkody SN[1], Gunawardena K[2], Ellepola H[3]

1 & 3 Department of Obstetrics & Gynaecology, Logan Hospital, Queensland, Australia; 2 Department of Obstetrics & Gynaecology, Teaching Hospital Peradeniya, Sri Lanka

Introduction

16-25% of the pregnancies are complicated by threatened miscarriage[1]. The knowledge on outcomes of the pregnancy following a threatened miscarriage is important to the obstetrician in surveillance, decision making and planning further management of the pregnancy. Therefore, the need of data on the adverse maternal and perinatal outcomes following a threaten miscarriage is well evident in local context.

Objective

To assess the association between early pregnancy bleeding and risk of poor maternal and perinatal outcomes.

Methods

A prospective cohort study was carried out in the Obstetrics and Gynaecology Unit, Teaching Hospital Peradeniya, Sri Lanka for a period of ten months. All pregnant women with a history of notable vaginal bleeding in the first 24 weeks of gestation were recruited as subjects[2] and age and parity matched, pregnant women without a history of any vaginal bleeding, were recruited as controls. Multiple pregnancies or foetus with congenital anomalies, women with known bleeding disorders and congenital uterine abnormalities were excluded. Sample size was 440 including 220 in each group. Several selected maternal and perinatal events were considered as outcome variables. Small for gestational age was detected via locally adapted customized growth charts[3,4]. Data were analyzed by using SPSS 23.0. Ethical clearance was obtained by Ethics Review Committee Faculty of Medicine, Peradeniya, Sri Lanka.

Results

The mean maternal ages were 27.8 and 28.2 years respectively in study and control groups. Mean age and body mass index were comparable in the two groups. Threatened miscarriage was significantly associated with an increased relative risk for small for gestational age (P<0.01; RR 1.52; 95% CI=1.10-2.08), low birth weight (P<0.01; RR 1.61; 95% CI=1.23-2.15), preterm delivery (P=0.020; RR 2.62; 95% CI=1.18-5.79), pre-eclampsia (P=0.04; RR3.25; 95% CI=1.07-9.81) and foetal growth restriction (P<0.03; RR 2.50; 95% CI=1.12-5.55) compared to the age and parity matched control group. There were no statistically significant difference noted between the study and control groups with regard to incidence of placental abruption, placenta praevia, retained placenta, rate of caesarean section, rate of instrumental delivery, incidence of neonatal death, Apgar score <7 at 5 minutes and rate of admission to neonatal intensive care unit.

Adverse Outcome	Threatened M/C (n = 220)	%	Control (n = 220)	%	Probability	Relative Risk (95% CI)
Preterm labour	21	9.5	8	3.6	0.020	2.62 (1.18-5.79)
Preeclampsia	13	5.9	4	1.8	0.045	3.25 (1.07-9.81)
FGR	20	9.1	8	3.6	0.030	2.50 (1.12-5.55)

References

1. Mulik V, Bethel J, Bhal K. A retrospective population-based study of primi gravid women on the potential effects of threatened miscarriage on obstetric outcome. British Journal of Obstetrics and Gynaecology 2004 April; 24(3): 249-53.
2. Cunningham FG, Gant NF, Leveno KJ, Gilstrap LC, Hauth JC, Wenstrom KD, editors. William's Obstetrics. 21st edition. New York (NY): McGraw-Hill; 2001. Chapter 6.
3. Dias T, Shanmugaraja V, Ganeshamoorthy, Kumarasiri S, Abeykoon S, Padeniya T. Birth weight standards – Ability of birth weight percentiles in predicting abnormal fetal growth and outcome. Sri Lanka Journal of Obstetrics and Gynaecology 2014 Dec; 36: 85-8.
4. Kumarasiri S, Wanigasekara R, Wahalawatta L, Jayasinghe L, Padeniya T, Dias T. Accuracy of ultrasound estimated fetal weight formulae to predict actual birth weight after 34 weeks: prospective validation study. Ceylon Medical Journal 2013 Sep; 58(3): 116-21.

Conclusions and Recommendations

Threatened miscarriage carries a significant risk of adverse maternal and perinatal outcomes and it is identified as a risk factor for small for gestational age, low birth weight, foetal growth restriction, preeclampsia and preterm labour. This knowledge should be applied by the clinicians to counsel the pregnant women with threatened miscarriage and planning the future management.