Fetal and Maternal effects of pre viable rupture of membrane: A population-based study in the State of Qatar

Background:

Previable premature rupture of membranes (PVPROM) poses a major challenge for the mother, fetus as well as for health care providers. It is associated with serious maternal and neonatal morbidity and mortality.

The incidence of PVPROM quoted in the literature ranges from 0.1% to 1% of all pregnancies and the short- and long-term neonatal outcome essentially depends on the gestational age at which the membrane ruptured.

We aim to analyse the prevalence of PVPROM and its impact on maternal and short-term fetal outcome which will enable us to understand the complexities of management, monitoring and ethical issues in order to achieve a better outcome.

Objective: To study the prevalence of PVPROM among our multi-ethnic population. In addition, the maternal and short-term neonatal outcomes in women who presented with rupture of membranes between 13 and 24 weeks of gestation.

Study Design: This is a population based retrospective cohort study conducted from July 2020 to June 2021 at Women's Wellness and Research Centre in Doha - Qatar.

Methods and Materials: A retrospective case note was undertaken of all women who presented with pre viable rupture of membrane from 13 weeks to 24 weeks of gestation during the study period.

Results: The overall prevalence of PVPROM in our population was 0.34% (55/16300 deliveries). Among 55 patients with PVPROM, 11% (6/55) had miscarried ,18% (10/55) underwent termination of pregnancy and 60% (33/55) proceeded to live birth. The latency period ranged from 1 to 126 days (median of 30 days).

For a pregnancy that proceeded to 24 weeks and beyond, the rates of induced labour, vaginal delivery, breech extraction and caesarean section were 38% (15/39), 49% (19/39), 5% (2/39), and 46% (18/39) respectively. The incidence of culture proven or histologically confirmed chorioamnionitis was 47% (26/55).

There were 11 % (6/55) still births noted while on conservative management. The neonatal morbidity reported were respiratory distress 16% (9/55), sepsis 7% (4/55), intraventricular haemorrhage 2% (1/55) and neonatal death 5/55(9%). The overall neonatal survival rate 51% (28/55), however the intact neonatal survival rate excluding the babies with severe neonatal morbidities was 25% (14/55).

Conclusion: This study highlighted that the prevalence of PVPROM (0.34%) among our population is comparable to the published literature. The most common neonatal morbidity was respiratory distress, and the intact neonatal survival rate was only 25%. It is imperative that more in-depth analysis is required as part of the quality improvement process to increase the intact neonatal survival rate among our population.