

Is Preterm Premature Rupture Of Membranes Associated With Macrosomia?

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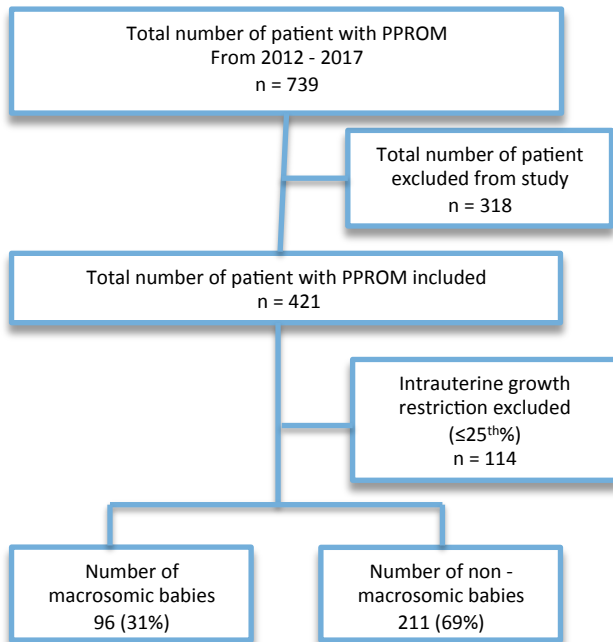
Introduction

Preterm premature rupture of membranes (PPROM) is the leading cause of preterm deliveries and occurs in 3% of pregnancies.¹ It is associated with significant maternal and neonatal morbidity and mortality largely resulting from prematurity and infection. Previous studies have suggested uterine distension likely contributes to the pathogenesis.² In this study we were interested to see whether macrosomia might be over-represented and contribute to PPRM.

Methods

We performed a retrospective cohort study at a tertiary centre over a 5-year period from 2012-2017. We included women presenting with PPRM between 24^{0/7}– 36^{6/7} gestation and had a formal ultrasound estimating fetal weight (EFW) prior to delivery. Those with an EFW $\geq 90^{\text{th}}$ percentile for gestation were classified macrosomic and those $< 90^{\text{th}}$ percentile were classified normal growth.

Figure 1. Study cohort



Results

There were 421 women who presented with PPRM during this study. Of this cohort, 22.8% ($n = 96/421$) of fetuses were diagnosed with macrosomia on ultrasound scan prior to delivery.

When excluding fetuses with intrauterine growth restriction ($\leq 25^{\text{th}}$ percentile), 31% ($n = 96/211$) were found to be macrosomic. Secondary outcomes of maternal and fetal outcomes were comparable in most parameters, including modes of delivery between macrosomic and non-macrosomic fetuses.

Table 1. Baseline maternal characteristics of women presenting with PPRM

	Macrosomia N=96	Not macrosomia N=325	P value
Maternal Age, years Median, (IQR)	32.0 [28.2, 35.1]	32.1 [28.6, 35.6]	0.31
Multipara, n (%)	49 (51.04%)	118 (35.87%)	0.45
Body mass index median, kg/m ² (IQR)	27 [23,32]	25.5 [22,29]	0.03
Smoking	13 (13.54%)	45 (13.68%)	0.12
Gestational Diabetes	12 (12.5%)	34 (10.33%)	0.49

Table 2. Baseline fetal characteristics of women presenting with PPRM

	Macrosomia N=96	Not macrosomia N=325	P value
Birth Weight (grams), median (IQR)	2246 [1632, 2813]	1922 [1289, 2328]	0.001
Gestation age at PPRM (weeks)	33.5 [30.18,35.2]	32.5 [29.4,34.6]	0.11
Time from PPRM to birth (days)	3 [1,7]	4 [2,11]	0.01

Discussion

There was a higher than expected number of women with macrosomia presenting with PPRM. Macrosomia may be a risk factor for PPRM.

1. Di Renzo, G etal 2006 *J perinat med* doi:10.1515
2. Romero, R etal 2006 *BJOG* doi: 10.1111