ORIGINAL RESEARCH PAPER

Gynecology

KEY WORDS:

MATERNAL AGE AND PERINATAL OUTCOMES

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ABSTRACT

Objectives- To determine perinatal morbidity rates by maternal age.
Study Design- This was Prospective Study in Department of Obstetrics & Gynaecology Zenana Hospital, SMS Medical College, Jaipur from March 2015 to February 2016.. maternal age was categorized in to 3 groups 19-23years,24-28yrs,29+ yrs . Rates of perinatal outcome by maternal age were compared . Sample size was calculated to 600 subjects .
Results- In our study ,New born baby with low birth weight were observed more in 19-23(5.67%) and 29+ (6%%)yrs of age group. New born baby with low APGAR at 5 minute <7/10 were observed more in 19-23(4.67%) and 29+ (5.5%)yrs of age group. NICU admissions of new born babies were more in 29+ yr age group (5.34%).
Conclusion- This study demonstrates that maternal age remains a predictor of perinatal morbidities. Further studies are needed in this regard in order to establish a perfect correlation between prenatal morbidities and maternal age.

Introduction –

While concerns about adverse perinatal outcomes for young mothers have been the focus of public health policy in many countries over the last 2–3 decades, recently concern has also shifted towards possible adverse outcomes for older mothers.The number of first and later births to women aged ≥30 years has increased over the past 20 years in many developed countries and greater maternal age is also associated with adverse perinatal outcomes. It has been suggested that older age is related to these adverse outcomes through biomedical mechanisms, because at older ages, in addition to ageing oocytes, women are more likely to have pre-existing diseases, reduced cardiovascular reserve and, as a consequence, greater difficulty with sustaining the pregnancy after successful implantation. Some of the adverse consequences associated with greater maternal age might also be related to greater use of infertility treatments amongst this age group.At older maternal ages socio-economic position might actually counteract a biological disadvantage, and, as such, mask a stronger biological or maternal health-related effect of greater maternal age with adverse outcomes.[1]

The objective of the present study was to assess the impact of maternal age on neonatal outcomes in term deliveries.

Material and Method:

Study design – prospective study
Place of study – department of obstetrics & gynaecolony, zenana hospital, sms medical college, Jaipur ,Rajasthan.
Duration of study – march 2015 to February 2016
Sample size – sample size was calculated to 592 at alpha error 0.05 & study power 80% hence for study purpose 600 subjects were taken in each of two groups.

Inclusion criteria

- gestational age 37 wks to 40 wks 6 days
- Spontaneous labour\
- Premature rupture of membrane
- Previous two caesarean
- No recorded indication
- Any planned caesarean, eg. Breech, transverse lie
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Exclusion criteria

- Aph
- Multiple pregnancy
- Iugr
- Congenital anomalies
- Medical illness
- Decreased fetal movements

Methodology

Prospective study of women admitting in labour room with gestational age between 37 wks to 40 wks and 6 days at zenana hospital, sms medical college, jaipur was conducted. Exclusion and inclusion criteria applied. Gestational age estimated by lmp or first usg. Mode of deliveries identified.Data of early neonatal outcomes were compared,correlated and statistically analyzed. Chi-square test was used to assess statistical significance ofassociation.P-value < 0.05 was considered as statistically significant.

Results: 600 subjects were recruited on the basis of inclusion and exclusion criteria. A form was completed for each subjects, a detailed medical and obstetric history taken, clinical examination and routine antenatal investigations and USG done. Data of early neonatal outcomes were compared,correlated and statistically analyzed.

Salient features of this study were: -The urban population constituted major part of study population (68.67%). Majority of study population belonged to middle class (71.67%) and maximum cases were Hindu (83%). Majority of cases could read and write (70%).

Observation

Table – 1 ***Distribution According to maternal age***

Age group (in yrs)	No.	%
19-23	200	33.33%
24-28	232	38.67%
29+	168	28%
TOTAL	600	100%

Table -2 Distribution of According to birth weight OF NEW BORN BABY

Age group (in yrs)	*Birth weight*			*P-VALUE*
	LBW (<2.5kg)	*NBW (>2.5kg)*	*total*	
19-23	*34 (5.66%)*	*166 (27.67%)*	*200 (33.33%)*	*P-VALUE >0.05 NS*
24-28	*28 (4.66%)*	*204 (34%)*	*232 (38.67%)*	
29+	*36 (6%)*	*132 (22%)*	*168 (28%)*	
TOTAL	*98 (16.33%)*	*502 (83.67%)*	*600 (100%)*	

TABLE-3 Distribution of According to APGAR SCORE AT 5 minute of New Born Baby

Age group (in yrs)	APGAR SCORE AT 5 minute			P-VALUE
	<7/10	>7/10	Total	
19-23	28 (4.67%)	172 (28.66%)	200 (33.33%)	P-VALUE >0.05 NS
24-28	26 (4.33%)	206 (34.34%)	232 (38.67%)	
29+	33 (5.5%)	135 (22.5%)	168 (28%)	
TOTAL	87 (14.5%)	513 (85.5%)	600 (100%)	

TABLE-4 Distribution According to NICU ADMISSION of New Born Baby

Age group (in yrs)	NICU admission			P-VALUE
	present	absent	total	
19-23	30 (5%)	170 (28.33%)	200 (33.33%)	P-VALUE >0.05 NS
24-28	25 (4.16%)	207 (34.51%)	232 (38.67%)	
29+	32 (5.34%)	136 (22.66%)	168 (28%)	
TOTAL	87 (14.5%)	513 (85.5%)	600 (100%)	

DISCUSSION: In our study , 47%mothers were between 19-23 yrs of age,40.5% mothers were between 24-28 yrs of age, 12.5% mothers were between 29+ yrs of age.

New born baby with low birth weight were observed more in 19-23(5.67%) and 29+ (6%%)yrs of age group. Angela et al (2013)[2]reported that The incidence of low-birth-weight newborns of women older than30 years showed that the mean of birth weight decreased and the proportion of low-birth-weight and extremely low-birth-weight infants increased with advanced maternal age. This index(LBW) is a good indicator for long-term perinatal results; in addition, it is considered an important predictor for assessment of well-being and initial prognosis of the newborn. Ali Delpisheh et al (2007)[3] observed that Low birth weight observed in 6.7% in 20-25yrs age group,6% in 26-30yrs and 6.8% in >30yrs.New born baby with low APGAR at 5 minute <7/10 were observed more in 19-23(4.67%) and 29+ (5.5%)yrs of age group. Angela et al (2013)[2]reported that APGAR score was less in age group >35yrs.NICU admissions of new born babies were more in 29+ yr age group (5.34%). Jean Dupont Kemfang Ngowa et al (2013)[4]reported that in mothers of age 30years and above new born baby have higher rates of low Apgar scores and admission to special care neonatalogy unit(admission to special care neonatalogy unit(14.1% vs 10.2%, RR=1.38, p<0.05); low Apgar scores at 5min; (3.5% vs 1.6, RR=2.18, p<0.05). Blomberg M et al (2014)[5] reported that The neonatal outcomes followedalmost the same pattern; fetal distress, meconium aspiration, stillbirth, SGA and low Apgar score were exclusively attributed to women older than 29 years.

Conlusion- Although our findings cannot show just what the mechanism is for the effect of older age on perinatal outcomes they do highlight the importance of further research in this area so that women/couples who delay their first pregnancy are fully informed about potential consequences and how best to avoid them. Further studies are needed in this regard in order to establish a perfect correlation between prenatal morbidities and maternal age.

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