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Grand Multiparity-Maternal and Perinatal Outcome

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Abstract

Context: Grand multiparas were considered as high risk because of their complications during pregnancy and labour. Maternal as well as perinatal mortality and morbidity are closely related with grand multiparity. *Aims:* The aim of this study was to find out various maternal and fetal complications associated with grand multiparity. *Methods:* A retrospective study was conducted from January 2013 to December 2013 in our tertiary care centre. All women who were with five or more pregnancies admitted to our hospital were included. *Results:* A total of 133 cases were seen out of 15267 live births showing an incidence of 0.8%. The common complications seen were hypertensive disorders(12%), malpresentations (10%),intrauterine deaths (15%), preterm labour(9.8%), congenital anomalies(2%) and abortions (9%). Out of 103 live births 12 babies required NICU admissions for LBW and low APGAR. Six of those babies died due to sepsis. *Conclusion:* Grand multiparity is one of the cause for maternal, fetal and neonatal mortality and morbidity, low socioeconomic status, illiteracy and religion are key factors. Health education , proper contraceptives for prevention and good antenatal care to avoid complications are essential.

Keywords: Grand Multiparity; Great Grand Multiparity; Pregnancy Outcome.

Introduction

The term grand multiparity was introduced in 1934 by Soloman. B. and noticed increase in rate of obstetric and neonatal complications in this group [1]. To define, grand multiparity is ≥5 live births and stillbirths ≥20 weeks of gestation, and great grand multiparity is ≥10 live births and stillbirths [2]. In 2013 in United States 2.8% of live births were the fifth child, 1.5% were sixth and seventh child and 0.3% were the eight child [3]. Africa has the highest rate of grand multiparity [4]. Anemia, malpresentations, twins, hypertensive disorders, placenta previa and placental abruption are commonly associated with grand multiparas [5,6]. The incidence of abortions, operative interventions, PPH, perineal injuries are more in this group [7,8]. Perinatal morbidity, mortality and NICU admissions are high because of preterm labor, premature rupture of membranes, placental abruption and congenital malformations [9,10]. Operative deliveries due to malpresentations and macrosomic babies are common in grand multiparas [11,12,13].

Methods

A retrospective study was conducted from 1st January 2013 to 31st December 2013 in our tertiary care centre including all pregnant women admitted with five or more viable pregnancies. Data was collected from case sheets, labour ward registers, operation theatre records and NICU registers. Those with history of abortions <20 weeks, molar and ectopic pregnancies were not included in the parity.

Results

Out of 15267 live births 133 women were grand multipara and majority of them were in the age group of 30-40 years (60 %), 37% were between 20-30 years and one grand multipara was <20 years old and one >45 years old. The incidence of grand multipara was found to be 0.8%. Most of the cases were referred from peripheral health centres.

Religion and socioeconomic status: Most of them (90%) belong to low socioeconomic status (BPL card holders) 62% of grand multiparas belong to Hindu community and 38% belong to Muslim community.

Most of them 92 (66%) were 5th gravida and 25 (18 %) of them were 6th gravida and three (2%) of them 7th gravida, seven(5%) were 8th gravida and two were 11th gravida with great grand multiparity. Pregnancy complications like anemia was seen in 13(10%); preeclampsia in 17(16%), HELLP syndrome in one; breech presentation in nine (6.8%); twins in two (1.5%) transverse lie in one case; post dated pregnancy in two (1.5%) gestational diabetes mellitus in one,low lying placenta in one case, placental abruption in one case. Polyhydromnios were seen in one case each. Oligihydromnios with IUGR was seen in two cases.

Abortions were seen in ten cases.of which four were missed abortions, two were complete and four were incomplete. One was MTP. Two were induced abortions for anomalous baby. Preterm labour was seen in 13 cases, PROM was seen in six cases. Congenital anomalies were seen in three cases. Intrauterine deaths were seen in 19 cases. Termination was done with PGE1. Induction with PGE2 was done for PROM and postdated pregnancy in three cases.

Vaginal deliveries with live births were seen in 85 cases, episiotomy was required in ten cases. PPH was seen in four cases and managed medically. Caesarean sections in 18 cases, most of them for repeat sections (10), fetal distress (6), breech (1) and one for anomalous fetus with failed induction. Laparotomy was done in one case for rupture uterus and peripartum hysterectomy was done. One lady with G8P5L5A2 with IUD referred in active labour and died due to irreversible haemorrhagic shock with DIC.

Out of 103 live births 40(38%) were low birth weight and four were macrosomic. Out of them 18(17%) babies required NICU admission and 12(11%) of them are LBW with preterm,one with meconium aspiration, one with IUGR and two macrosomic babies. Out of these six babies died who had APGAR less than five

Table 1: Demographic data

Age(years)	Number(n)	Percentage (%)
<20	1	0.7%
20-30	50	37%
30-40	80	60%
40-45	1	0.7%
>45	1	0.7%

Table 2: Pregnancy complications

Complication	Number	Percentage
Hypertensive disorders	17	12%
Anemia	13	10%
Malpresentations-breech	9	7%
Twins	3	2%
Transverse lie	1	0.7%
Abruption placenta	1	0.7%
Diabetes mellitus	1	0.7%
Postdated pregnancy	2	1.5%
Polyhydramnios	1	0.7%

Table 3: Labour complications

Complication	Number	Percentage (%)
Preterm labour	13	9.8%
PROM	6	4%
IUD	19	15%
Congenital anomalies	3	2.5%
Abortions	10	7%
MTP	1	0.7%

due to birth asphyxia and neonatal sepsis.

Discussion

Table 4: Mode of delivery and complications

Mode of delivery	Number	Percentage
Vaginal	85	63%
Cesarean section	18	13%
Induction	3	2%
Peripartum hysterectomy	1	0.7%
PPH	4	3%
Perineal tears	2	1.8%

Table 5: Birth weight

Birth weight	Number(103)	Percentage
<2kg	14	13%
2-2.5kg	26	25%
2.5-3.5kg	43	41%
3.5-4kg	16	15%
>4kg	4	4%

Grand multiparity is becomingrare showing an incidence of 0.8%. Repeated pregnancy and childbirths are the causes of increase in maternal mortality and morbidity. Most of these cases were seen in low socioeconomic group and were referred with complications. Illiteracy, poverty and religious myths and beliefs were the key factors.

Similar to Singh et al's study most of them were seen in age group of more than 30 yrs [5].

Stein et al observed that the incidence of multiparity with hypertensive disorders, diabetes, macrosomia were more with advanced maternal age [14]. Mc Gillivrey found that chronic hypertension and twinning increases with maternal age [6]. The prevalence of anemia in our study was 10% .One study (Singh et al) reported anemia in 92% [5].

Preeclampsia was seen in 12% which is little higher to study conducted by Al Sibai et al (1987) in which it was 6.1%. Frequency of malpresentations in our study was 10% [8]. Babinski in his study reported a higher frequency of malpresentation. Singh et al in his study shows a frequency of 18% [9] .

Preterm delivery in our study was 9.8%. Al Sibai et al also showed higher cases of preterm labour ,and Singh et als study showed 15%. Frequency of IUD in our study was 15%. Singh et al reported it as 18% [5]. PPH and perineal injuries were less in our study compared with other studies [12]. Maternal mortality was lesser than other studies and it was a 8th gravida with IUD had irreversible haemorrhagic shock due to DIC [10]. One case of rupture uterus was reported in our study and it was more in Ummi et al's study [13].

Grand multiparity is one of the causes of maternal and fetal mortality and morbidity. Illiteracy, poor socioeconomic status and religion are the key factors in developing countries. Grand multiparity should be reduced by health education and improving socioeconomic status. Proper counseling and use of appropriate contraception would prevent these pregnancies. Good antenatal care, prevention of anemia, early recognition of complications and active intervention are necessary to prevent maternal as well as neonatal mortality and morbidity.

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