RISKY GRAND MULTIPARAS

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ABSTRACT….. Grandmultiparity has long been classified as constituting a high risk factor in pregnancy. The complications associated with grandmultiparity have been divided into ante-partum, intra-partum and the postpartum. Intrapartum complications most commonly thought to be associated with grandmultiparity are malpresentations, placental disorders, postpartum hemorrhage and uterine rupture. Concerted effort should be instituted for effective family planning initiatives and specialized antepartum and intrapartum management. **Objective:** To determine the frequency of intrapartum complications and mode of delivery in grandmultipara. **Material and Methods:** It is descriptive case series study conducted in department of obstetrics and gynaecology, Punjab Medical College and affiliated hospitals, Faisalabad from March 11, 2010 to September 10, 2010. **Results:** Grandmultipara women who fulfilled the inclusion criteria were studied for intrapartum complications and mode of deliveries. One hundred and thirty nine patients were included in my study. Mean age of the patients was 32.38 years. Mean gestational age for delivery was 37.06 weeks. Grandmultiparas had more intrapartum complications including malpresentation (19.4%), placental abruption (5.8%), placenta previa (8.6%), postpartum hemorrhage (6.5%) and ruptured uterus (1.4%). Mode of delivery was also assessed and 59%, 7.9 %, 31.7% of patients had normal vaginal delivery, instrumental vaginal delivery and cesarean section respectively. **Conclusions:** It is concluded that in the developing countries the incidence of grandmultiparity is still high with a significantly increased risk of complications. Grandmultiparity should be considered high risk and needs active intervention by improving literacy, health care facilities, provision of safe and effective contraception and reproductive health status.

Key words: Grandmultipara, intrapartum complications, mode of delivery.

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INTRODUCTION

The international Federation of Gynaecology and Obstetrics(1993) has defined grand multiparity as delivery of the fifth to ninth infant, whereas women who are undergoing their tenth (or more) delivery are considered to be great grandmultiparas[1] & the prevalence and incidence is 9%[2] and 4.8%[3] respectively. High parity is more common in developing societies[4]. The term grand multipara was introduced in 1934. Since then, many studies have explored the relationship between grand-multiparity and obstetric complications. Intrapartum complications that are classically associated with grand-multiparity include malpresentation of the fetus, dysfunctional labor, obstructed labor, assisted delivery, instrumental delivery, caesarean delivery, ruptured uterus, post partum hemorrhage, retained placenta, macrosomia & maternal death[5]. Placenta previa, abruptio placentae, abnormal presentation, hemorrhagic complications, and ruptured uterus occur more commonly in grand multiparas. Incidence of placenta previa increased with increasing parity, 82% in multipara as compared to 18% in nullipara[6]. Grand multigravida are also at increased risk of ruptured uterus (63.8%) which is a serious obstetric emergency[7]. Grand multigravida are considered to be at higher risk of postpartum hemorrhage (51.5%)[8].

Solomon's introduced the term dangerous grand-multipara. His concerns for grand multipara were prompted by a study that discovered maternal mortality rate associated with multiparity increasing “steadily and speedily” from the fifth pregnancy until women bearing their tenth child or more had a mortality rate five times as high as all women bearing children[9].

In Pakistan, the incidence of grandmultiparity along with its complications is still high. Lack of health education, religious taboos against use of family

planning methods account for increased incidence of grandmultipara which is further complicated by poor socio economic status, illiteracy, unhygenic living standard and lack of transportation.

SUBJECTS AND METHODS

This descriptive case series study was conducted in obstetrics and gynaecology unit, DHQ hospital, Faisalabad. One hundred and thirty nine grand-multipara patients with labor pain were recruited in this study. All women who were para $\geqslant$5 with gestational age of $\geqslant$28 weeks confirmed by last menstrual period or ultrasound scan with complain of labour pain or other complications such as placenta previa, abruptio placenta, grandmultiparas with home deliveries followed by postpartum hemorrhage or retained placenta, ruptured uterus and trial of labor out side the hospital. Whereas, women with multiple pregnancies and medical disorders like diabetes mellitus, heart disease, renal disease and hypertension were excluded.

The patients were taken from the labour ward and those who met the inclusion criteria were recruited by non probability consecutive sampling method. The patients were informed about the purpose of study and written consent was taken. A team of doctors working in labor room was responsible for taking detailed history including age, parity, complications during pregnancy, gestational age and trial of labor out side the hospital. Thorough examination was performed including general physical examination & abdominal examination. Baseline investigations were sent to hospital laboratory in all cases including %hemoglobin, blood group, urine analysis & blood sugar level. Relevant investigations were performed where needed. Intrapartum events and mode of delivery were recorded by senior trainee registrar on duty. The data was collected through a specially designed proforma.

Data analysis was conducted by using SPSS version 10.0. The quantitative variables like age and parity were described as mean ± standard deviation. The frequency and percentage were computed for all categorical variables like intrapartum complications (malpresentation, abruptio placentae, postpartum hemorrhage, ruptured uterus), mode of delivery (normal vaginal delivery, instrumental vaginal delivery, cesarean section) and obstetrical hysterectomies.

RESULTS

This was a descriptive case series study and during the study period of 6 months, 139 grandmultipara with labor pain were selected. None opted out of the study once enrolled and there was no protocol violation.

Demographic characteristics of the patients are demonstrated in the form of mean ± standard deviation in table I. The mean age of the patients was 32.38 years at the time of delivery and this ranged from 25 years to 40 years. The mean number of previous deliveries among the grand multipara was 5.52 with range of 5 to 9. The mean gestational age at which grand multiparas delivered was 37.06 weeks and ranged from 30 weeks to 42 weeks.

Intrapartum complications associated with grand multiparity are shown in table II. In my study malpresentation was seen in 27 (19.4%) of patients and included breech or shoulder presentation. Neglected transverse lie presented with obstructed labor, cord or hand prolapse.

Placental abruption was found in 8 (5.8%) of patients. One patient needed dialysis due to renal failure, a grave complication of placental abruption.

The frequency of placenta previa was 12 (8.6%) and postpartum hemorrhage 9 (6.5%). PPH occurred due to uterine atony in most of the cases, two cases were referred from private setup after delivery with complain of heavy vaginal bleeding. One case was due to retained placenta which was brought to hospital after

home delivery. Two patients had PPH after CS due to placenta previa.

	Number	Minimum	Maximum	Mean	Std. Deviation
Age of the patient	139	25	40	32.38	3.36
Parity	139	5	9	5.52	.85
Gestational age	139	30	42	37.06	2.28

Table-I. Descriptive statistics of grandmultiparas

	Yes	%	No	%	Total
Malpresetation	27	19.4	112	80.6	139
Placenta Previa	12	8.6	127	91.4	139
Placenta Abruption	8	5.8	131	94.2	139
Postpartum Hemorrhaeg	9	6.5	130	93.5	139
Ruptured Uterus	2	1.4	137	98.6	139

Table-II. Frequency of intrapartum complications

Rupture of uterus occurred in 2 (1.4%) of cases. One case of ruptured uterus was with previous scar and the other was mismanaged with syntocinon by traditional birth attendant and was referred in state of shock. Mode of delivery was assessed and shown in the table-III. In my study grandmultipara who delivered vaginally were 82 (59%). Instrumental delivery was conducted in 11 (7.9%) of cases and caesarean section was done in 44 (31.7%) of cases.

DISCUSSION

	Yes	%	No	%	Total
Normal Vaginal Delivery	82	59	57	41	139
Instrumental Delivery	11	7.9	128	92.1	139
Cesarean Section	44	31.7	95	68.3	139

Table-III. Mode of delivery

For many decades pregnancy in grand multipara has been considered risky[2]. It is often considered a separate clinical entity as certain complications during pregnancy, labor and puerperium occur with increased frequency in these women[10]. In Pakistan, population growth rate is one of the highest in the world[11]. There is lack of education and people are against the use of contraception due to religious & cultural taboos.

Only 1/3rd of the complicated cases reach hospital[10]. Grand multiparity is one of the major contributing factors in increasing mortality[12] and remains a challenge for obstetricians. Therefore, the identification of the intrapartum complications & mode of delivery in grand multipara are important and need active intervention by improving literacy rate, health care facilities, safe and effective contraception and reproductive health status.

The grand multiparity comprises 30% of our total obstetric admissions, the incidence is alarmingly high in the developing countries and is comparable to 26% as shown in a study by Shamshad Begum. In our study mean age of grand multiparas was 32.38 years. Advanced maternal age is an independent risk factor for a number of antenatal medical disorders, placenta previa, placental abruption, malpresentation and CS, which potentially influence both maternal and neonatal morbidity and mortality.

In our study the malpresentation was 19.4% comparable to 16% by Rozina Shahid[13] from Military Hospital Rawalpindi.

Similar findings were seen in a study by Shamshad begum[10] in Ayub teaching complex Abottabad, and by Shaista Tabassum Abro[14] and colleagues in Shaikh Zaid Women Hospital, Chandka Medical College Larkana where frequency of malpresentation was 14.7% & 15% respectively. In contrast, G.J Bugg[10] and colleagues in St. Mary's maternity information System in the United Kingdom found a lower rate of the malpresentation that was 5% and was comparable to

5.3% noted by D.E.E Rizk15 and colleagues in Al Ain hospital, UAE. This variation in result may be due to large sample size and duration of study. The sample size was 397 and 418 respectively and duration of study was longer in both the cases.

Placenta Previa was seen in 8.6% of patients comparable to 7% found by Rozina Yasir[12] and colleagues in department of Obstetric and Gynaecology Civil Hospital Karachi in 2009. Same finding of 7% was also observed by Shaista Tabassum Abro[14]. Placenta Previa is commonly encountered in older multiparous women. Maternal age and parity correlate strongly for placenta Previa. There is 5.6 fold increasde risk for placenta previa in high parity group over the age of 40 years. The percentage of placenta previa observed by Shamshad begum[10] and Rozina Shahid[13] was 5.4% and 5%, which was slightly lower than that found in my study. However, Horace Roman[2], D.E.E Rizk and colleagues[15] and C Benecke[16] found a low prevalence rate of 1.1%, 1.7% and 1.9% respectively. The difference might be due to large sample size & duration of study and likely explanation could be that placenta previa was more strongly associated with previous cesarean birth and with advance maternal age.

Premature separation of normally situated placenta occurs in grandmultipara more frequently. The typical patients are of high parity and older age group. Present study revealed 5.8% cases of placental abruption among grandmultipara which is comparable to 6% by Rozina Yasir[12] and 7.07% by Shamshad Begum[10].

Shaista Tabassum Abro[14] observed 11% cases of placental abruption among grandmultipara which was significantly higher than my study. This difference might be due to higher number of patients with PIH in that study while I excluded all grandmultipara with medical disorders like PIH, chronic HTN, GDM. There is high incidence of placental abruption with eclampsia (24%) and 9 fold higher risk with chronic hypertension.

In my study PPH occurred in 6.5% of cases comparable to 6% by Shaista Tabassum Abro[15] and colleagues. Similar findings regarding frequency of PPH (7.67% and 5.8%) were noted by Shamshad Begum[10] and G.J Bugg[14] in their studies. In my study most of the cases were due to uterine atony. While Horace Roman[2] and colleagues found 0.81% risk of PPH in grandmultipara. This result agrees with that of Bai et al[17], who analyzed 510,989 pregnancies retrospectively and found that grandmultiparity did not increase the postpartum hemorrhage risk. Toohey et al[18] also found that postpartum hemorrhage was less frequent in grandmultiparas than in multiparous control. Same finding was observed by D.E.E Rizk[15]. This variation in results may be due to the routine active management of third stage of labour.

Spontaneous rupture occurs in women of high parity, particularly when associated with disproportion and/or oxytocin induction or augmentation of labour. Grandmultiparity is the major risk for uterine rupture. In the case of uterine rupture the pathology is believed to involve increased hyalinization of blood vessels, loss of elasticity, and increasing fragility of the uterine wall, which in turn predisposes to the greater likelihood of spontaneous rupture. This was seen in 1.4% of my patients and was comparable to 1% by Shaista Tabassum Abro[14] and colleagues. Similar findings (2%) were noted by Rozina Shahid[13].

Regarding mode of delivery, present study showed that 59% of grandmultiparas delivered vaginally which was comparable to 58% by Rozina Shahid[13] 63% as observed by Muhammad Alfareed Zafar[11] & Colleagues in their study at Lady Aitchison Hospital, Lahore. Most of the patients had less than 12 hours of labour. No significant intrapartum complication was observed. The 1st and 2nd stage were smooth & speedy with good neonatal outcome. Shamshad Begum[10] noted that 50.7% of patients delivered vaginally and the rate was

slightly lower than my study. Higher number of referred patients that might have been mismanaged by TBA during labour eventually resulting in higher number of emergency caesarean section. While another study by D.E.E Rizk[15] showed 91.7% spontaneous vaginal delivery rate. This significant difference might be due to large sample size and the low rate of induction of labour, instrumental delivery and cesarean is probably caused by the inherent desire for spontaneous labor and resistance to any interference with the process of delivery.

Our study showed 7.9% instrumental delivery rate which was comparable to 4.4% by Shamshad Begum[10]. Forceps delivery was performed mostly in case of fetal distress and maternal exhaustion whereas vacuum extraction was carried out in malposition of the fetal head & maternal exhaustion.

The results from studies by Horace Roman[2] and colleagues, G.J.Bugg[9] and colleagues, and D.E.E rizk[15] did not comply with mine showing instrumental delivery rate of 2.2%, 0.8% and 0.7% respectively. These differences might be due to large sample size and better antenatal care.

The frequency of caesarean delivery in grand multiparas was high (31.7%) due to increased incidence of intrapartum complications especially dysfunctional labour, malpresentation and placenta previa. Some patients were referred from TBAs, mismanaged with syntocinon. In my study CS was mostly done in emergency due to neglected transverse lie, placenta previa and dysfunctional labor. A few emergency CS were done because of previous two or more CS.

In another study which was conducted by G.J. Bugg[9] and colleagues found 7% C.S rate in grandmultipara. This significant difference was also observed by D.E.E.Rizk[15] that was 2.4%. These variations might be due to efficient antenatal care in these developed countries. This trend can also be attributed to family planning ensuring that patients with a number of previous CS are advised against having large families.

CONCLUSIONS

It is concluded from results of my study that grand multiparity is still a major obstetrical problem in our set up with higher incidence of complications. In Pakistan the large families are still common. Cultural believes and religious taboos prevent the use of contraception, there is also shorter inter pregnancy interval, poverty, poor diet, inadequate health care that predispose grand multipara to higher risks during pregnancy, labor and puerperium. Grand multiparity itself is not as hazardous, it is the lack of basic obstetric care during pregnancy and delivery, due to which grand multiparity is known as high risk pregnancy. Proper antenatal care and anticipation of complications during labor and delivery may reduce complications in grandmultipara. The focus of concern should shift to the improvement in health care system, free provision of health facilities to all pregnant women and provision of accessible and effective contraception.

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