COMPILICATIONS OF GRAND MULTIPARITY

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ABSTRACT

Objective: To find out different maternal and fatal complications associated with grand multiparity.

Study Design: A descriptive study.

Place and Duration of Study: The maternity ward of obstetrics and gynaecology department, Military Hospital Rawalpindi from Jan 2003 to Dec 2003.

Material and Methods: The study was carried out in Maternity ward, obstetric and gynaecology department, Military Hospital Rawalpindi, a tertiary care hospital. It included 100 cases of grandmultipara women. All antenatal patients admitted in Maternity ward, Military Hospital Rawalpindi who had five or more viable pregnancies were included in the study. A detailed history was taken with thorough physical examination and necessary investigations were carried out. For this purpose a proforma was made covering all aspects of the study.

Results: Most of the patients included in our study were ranging in age between 30-40 years. 20% were booked cases, 58% belonged to poor socioeconomic class, about 83% were with term pregnancy, 15% with preterm labour. Intrauterine death 7%. Eclampsia was seen in 4% of patients preeclampsia 9%, 5% diabetic, 45% anemic, 4% presented with obstructed labour. Malpresentation 16%, placenta praevia 5%, placental abruptio 8%. Ruptured uterus 2%, caesarean–rate 23%. Vaginal delivery ratio of 58%, retained placenta 2%. Postpartum haemorrhage 9%. Low birth weight (LBW) babies were 15%, intra uterine growth retardation (IUGR). Macrosomia birth was 10% and 67% had apgar score of 8-10.

Conclusion: It is concluded that grandmultipara is a still major obstetric hazard which needs active intervention by improving literay rate, health care, facilities provision of safe and effective contraception and reproductive health status.

Keywords: Labour, multipara, grand multiparity, pregnancy.

INTRODUCTION

Maternal deaths associated with complications of pregnancy and child birth in Pakistan are very high. This is mainly because of repeated, closely spaced and high parity pregnancies while Maternal Mortality Rate (MMR) in developed countries ranges between 6 and 50 per 100,000 live births, the MMR in Pakistan is estimated to be around 340 maternal deaths per 100,000 live births (WHO & UNICEF).

The International Federation of Gynecology and Obstetrics (1993) defined grandmultiparity as delivery of the fifth to ninth infant whereas women who are undergoing their tenth (or more) delivery are considered to be great-grand-multiparas [1].

Grand multiparity (GMP) is considered as dangerous and high risk clinical entity as certain complication during pregnancy, labour and puerperium are thought to occur with increased incidence in these women. In terms of minimal risk concept: the safest babies to have are second, third and fourth. The hazards are greater for women in their fifth pregnancy and onwards [2]. Some complications that are classically associated with grand multiparaes include fetal malpresentation, dysfunctional labour, abruptio placentae, placenta previa, postpartum haemorrhage, ruptured uterus, macrosomic babies and anaemia.

Anaemia both iron deficiency (microcitic hypochromic & megaloblastic) and folic acid deficiency is the commonest disorder associated with grand multiparity.

The incidence of abortion both spontaneous and induced due to unwanted pregnancy is very high in high parity women. It is one of the major causes of maternal

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deaths in Pakistan contributing 11% to the maternal mortality ratio. The risk of fetal chromosomal abnormalities, in particular trisomy 21 or Down syndrome rises sharply with maternal age [4].

Hypertensive vascular disease is found with increased frequency in grand multipara [5]. Advanced maternal age, obesity renal parenchymal disease, vascular disease and genetic predisposition which play important role in its development [6].

The incidence of pre-eclampsia in grand multipara is 7.1% [11]. According to the survey on perinatal mortality in Pakistan hypertensive disorders were responsible for 12% of perinatal death which include 97% stillbirth and 3% neonatal death [7].

There is a 5.6 fold increased risk for placenta praevia in high parity group over the age of 40 years [8]. Premature separation of normally situated placenta occurs in grand multipara more frequently. The typical patients are of high parity and older age group.

There are higher frequencies of malpresentations in grand multiparas [9]. These malpresentations directly affect the outcome of labour by causing high incidence of obstructed labour and operative delivery which increases the maternal morbidity and mortality as well as perinatal mortality.

Rupture of uterus is the gravest complication of high parity. Diabetes mellitus and gestational diabetes are closely associated with high parity and advanced maternal age [10] There is an increased incidence of twin pregnancy in GMP, due to high parity (2% after four pregnancies) and maternal age (2% at 35 years) [11].

Post partum haemorrhage (PPH) is also more common in multipara. In GMP it occurs due to uterine atony, lack of retraction, and injuries to the genital tract. The chances of caesarean section are high in GMP due to malpresentation, malposition and likelihood of cephelo-pelvic disproportion (CPD), twin pregnancy, placental abruption and eclampsia [3].

The preinatal mortality in grand multipara is also high due to various factors like preterm labour and prematurity, premature induction of labour.

A study was conducted in Military Hospital Rawalpindi. The purpose of this study was to evaluate parity related complications during pregnancy and labour in grand multiparas and to see the outcome of pregnancy and labour. The aim was also to assess the maternal morbidity and mortality as well as fetal outcome in terms of perinatal mortality and morbidity.

PATIENTS AND METHODS

The descriptive study was conducted at the department of obstetrics and gynaecology Military Hospital Rawalpindi. It was a hospital based prospective study and was spanned over a period of one year, from Jan 2003 to Dec 2003. One hundred consecutive patients according to the inclusion criteria were included in the study. All antenatal patients admitted in maternity ward, MH Rawalpindi, who have five or more viable pregnancies were included in the study. All patients with less than five viable pregnancies were excluded from the study. Abortion, ectopic pregnancy and hydatidiform mole were not included in the parity. Multiple pregnancies were counted as single pregnancy.

A detailed history of the patient was taken with thorough physical examination and the information collected on detailed proforma. This proforma included details of both mother and the baby such as age, education, socioeconomic status, period of gestation, detailed past medical and surgical history, present pregnancy complication, antepartum as well as intrapartum, nature of admitted whether booked or unbooked/ emergency etc.

Booked patients were given the proforma at the time of discharge and were instructed to bring it along at the time of delivery. As maximum number of patients were unbooked, their proformas were filled by taking necessary and relevant information from the near relative. Baseline investigations

were carried out in every patient including blood group and RH factor, blood sugar random, urine RE and haemoglobin estimation.

The patiens were followed up for 01 week after delivery. All patients were analyzed for complications during pregnancy and labour and maternal and fetal outcome were assessed in terms of maternal morbidity and mortality as well as fetal morbidity and mortality.

Statistical Analysis

The data had been analyzed using SPSS. Descriptive statistics were used to describe the data.

RESULTS

Total obstetrical admissions during the study period were 4300 and grand multiparas were 835, the incidence was 19%. Most of these emergency cases had trial of labour at home or in other primary or secondary health care centers and referred with complications.

Hundred consective cases of GMP were included in the study. Frequency of GMP was more in low and middle socioeconomic class (85%). It is uncommon in upper social class because of trend of small family and adequate practice of contraception. Sixty percent patient were above 35 years of age.

Antepartum complications greatly affected the outcome of labour especially the hypertensive disorders. The most common complication encountered in GMP was anaemia 45%. Majority was having Hb between 8-9 gm/dl. The hypertension (HTN) was seen in 8% of grand multiparaous patients with eclampsia 4% and preeclampsia 9%. The frequency of diabetes was 5%. As antenatal attendance of grand multiparaous patients was poor so most cases of diabetes and HTN were not previously diagnosed or treated.

Frequency of dysfunctional labour due to malpresentations was 16%. Neglected transverse lie either presented with obstructed labour or with cord or hand prolapse. There were two (2%) cases of ruptured uterus one was rupture of a previous caesarean scar. Both cases came in emergency with an already ruptured uterus.

The 58% of patients had normal vaginal delivery while 23% underwent caesarean section (Table-1). There were 5 cases with twin deliveries. Labour induction rate was high (24%) due to intrauterine fetal deaths, fetal anomalies, postmaturity, premature rupture of membranes and maternal HTN, preeclampsia and eclampsia. Induction with intracervical foley's catheter followed by amniotomy and oxytocin was the commonest method of induction. Out of 24 cases, 23 ended in successful delivery, while 1 case had undergone caesarean section. About 75% of patients had less than 12 hours of labour. While a few patients had prolonged labour resulting in higher maternal morbidity and perinatal outcome.

Primary PPH was the second commonest complication seen in our study which occurred due to uterine atony in obstructed labour and prolonged labour cases (Table-2). All retained placentae were brought to hospital after home delivery and were due to uterine atony. Perineal tears were less common in GMP. Five percent of patients presented in shock due to primary PPH retained placenta and rupture of uterus. One patient had urinary retention who came with obstructed labour and previous manipulation. Sepsis rate was high (14%).

There were 2 maternal deaths. One was due to disseminates intravascular coagulation (DIC) because of APH and another due to irreversible shock (PPH). Perinatal outcome was poor in GMP. Frequency of LBW babies was 16 (15%), 14 cases being premature and 2 cases with IUGR. Macrosomic babies were 10%. In macrosomic babies, maternal diabetes was found in 3 cases. A total of 8% babies delivered alive (Table-3), 80% of these were having APGAR score between 8-10. Eight percent basies had an APGAR score below 5. All of these had neonatal death. Anencephaly was the commonest congenital anomaly. Birth asphyxia, neonatal sepsis and neonatal jaundice were common causes observed in neonatal morbidity.

Table-1: Mode of Delivery (n=100)

Mode of Delivery	No.	%
Normal veginal delivery	58	58%
Caesarean sections	23	23%
Instrumental deliveries	19	19%

Table-2: Third Stage Complications (n=100)

Complications	No.	%
Retained placenta	2	2%
Primary post partum hemorrhage	9	9%
Perineal tears	2	2%

Table-3: Perinatal Outcome (Total babies 105)

Status	No.	%
Alive	87	83%
Dead	18	17%

DISCUSSION

Grand multiparity and maternal mortality are closely related because of repeated pregnancies and child births. In our study more than 75% patients were admitted in emergency and no antenatal care was observed in these cases. In our study low socio economic class largely contributed to grand multiparity and its complications and other study observed the same findings [12].

About 85% patients were between 31-40 years age. Age related risks of grand multiparity like obesity, chronric hypertension, placenta previa, placental abruption, gestational diabetes and macrocosmic infants pose a great threat to both mother and fetus [13]. Stein [14] also observed that the incidence of these diseases increased with the advancing maternal age. McGillivrari [13] also found out that chronic HTN and twining increased with the advanced maternal age. This is also consistant with another observation [15].

The frequency of hypertension, diabetes, placental complications operative intervention at delivery, macrocosmic infants, chromosomal abnormalities and fetal anomalies increase with increasing birth order [16]. In our study also, the frequency of these disease was high. The frequency of pre-eclampsia in our study was 9%. This is similar to a study by Al Sibai, 1987 [17] in which the incidence of pre-eclampsia was 6.1% and was the second leading complication. In our study increased incidence of intrauterine fetal death, intrauterine growth retardation and abruptio palcentae occurred due to hypertension in grand multiparas. This was one of the major cause for our increase perinatal mortality rate.

Anemia is one of the common medical problem found during pregnancy. A 26% incidence has been reported and our frequency was 45% [18].

There is 9.9% frequency of glucose intolerance in grand multies [7]. Our frequency of diabetes was 5%. Our study revealed increase occurrence of fetal macrosomia, intrauterine deaths, anencephaly and hydramnios in diabetic grand multies. This is in contrast to a study by Al Sibai in which diabetes mellitus caused the least pre-delivery complications (4.8%) 17 Babinszki et al reported similar frequency1. Incidence of preterm delivery in grand multies is 8.3% [8]. Our frequency was 15%. Al Sabia and Bibinszki et al showed a high incidence of preterm labour which is similar to our study [1, 17]. Frequency of intrauterine death in our study was 7%, due to increase incidence of above mentioned diseases. The reported incidence for intrauterine death in grand multies is 5.2%.

Babinszki et al reported higher frequencies of malpresentation in grand multiparas [10]. Our frequency was 16%. This is comparable to other studies [16-19].

APH is a major cause of perinatal morbidity and mortality. Our frequency for placenta preavia was 5%. Maternal morbidity was due to operative delivery and anemia. This is similar as reported earler [16.19].

Abruptio placentae is a serious and life threatening complication. There is 0.45-1.9% risk of abruption with mild uncomplicated hypertension and 2.3-10% risk for complicated severe hypertension [11] comparable to other series [16, 19]. Our frequency of uterine rupture in grand multiparas was 2%. In our study all ruptures were encountered in grand multiparas.

Frequency of caesarean delivery in grand multiparas was high due to increase incidence of intrapartum complications specially dysfunctional labour, malpresentations and

placenta praevia. This increase rate of caesarean delivery was also reported by other [11].

Maternal morbidity in our study was largely due to intrapartum complications. About 28% had hospital stay for more than 3 days. The major causes for increase maternal morbidity were obstructed labour, postpartum hemorrhage, sepsis and anaemia. Sepsis rate was 14% which included intrauterine infection and puerperal pyrexia. The major contributory factors for sepsis were unhygienic practicing conditions and manipulation by traditional birth attendant before arrival in hospital.

Our study showed that pregnancy and delivery are at greater risk in GMP, maternal morbidity and mortality are also increased. This is similar to results of pervious [16, 18-20]. Studies from abroad had conflicting results. Evaldson concluded that with few exceptions the grand multipara could be safely delivered by means of modern obstetric management [16].

Perinatal mortality which is more sensitive index of care of pregnant women is still high in our country and specifically among grand multiparas. It can be used to audit the quality of antenatal, intrapartum and neonatal care. Inadequate care is detrimental to both fetus and neonate. All local statistics showed increased incidence of preinatal mortality [1, 11].

CONCLUSION

It is concluded from results of our study that grand multiparity is still a major obstetric hazard in our setup with higher frequency of complications. 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. Excellent maternal and perinatal outcome is possible in grandmultipras with improvement in health care system and free provision of health facilities to all pregnant women.

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