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POSTPARTUM HAEMORRHAGE;
FREQUENCY IN OBESE PRIMIGRAVID WOMEN

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ABSTRACT... Objectives: To determine the frequency of postpartum haemorrhage in obese primigravid women**. Study Design:** Case series study. **Period:** Six months was conducted from 1st October 2014 to 30 March 2015. **Setting:** Department of gynecology and obstetrics at Liaquat University Hospital Jamshoro. **Patients and Methods:** All the primigravid obese (≥30kg/m2) ladies 18 to 35 years of age with 37-42 weeks of gestational age were evaluate for the occurrence of PPH by estimating blood loss of greater than 500 ml of blood following vaginal delivery or 1000 ml of blood loss following caesarean section. All data was entered and analyzed through statistical package SPSS version 17, the chi-square statistical test was applied and the p-value ≤0.05 was considered as statistical significant. **Results:** Total 203 primigravid obese ladies were studies, the age group was analyzed which shows that in age group between 18-25 years were 105(52.00%) women, in age group of 26-30 years were 62(30.69%) women and age group of 30 years and above were 35 (17.31%) women. The modes of delivery were evaluated which shows that 66.5% women underwent C-section and 33.4% women had normal vaginal delivery. The PPH was observed in 34.97% patients (70.4% with C-Section and 29.6 with NVD). **Conclusion:** Obesity carries a significant increased risk of complications during pregnancy and maternal risks during labour are PPH and more frequent C-section and nulliparous obese women have twofold high risk for PPH

Key words: Postpartum haemorrhage, Obesity, Primigravid.

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INTRODUCTION

The postpartum haemorrhage (PPH) is a major health issue in various developed and developing countries since decades and has been observed that maternal obesity may be responsible for PPH burden and various studies shown association between birth outcomes and increased BMI in obstetric population.[1] The prevalence of obesity is reported to be high during reproductive years and weight gain leads to adverse outcomes in labour and primigravid obese women and are at risk of acquiring neonatal and maternal complications during and after pregnancy.[2] According to World Health Organization 2000 report, about three hundred million populations are obese worldwide and will be double by the year 2050.[3] Weight gain increases the risks of gynecological disorders such as infertility and endometrial tumors, menstrual disorders, making obese women more needful to visit at gynecology clinics.[4] Regarding obstetrics, weight gain increases the risk of intrapartum, antepartum and postpartum complications for the mother and fetus.[5] The baby of obese mothers will also have perinatal morbidity and health problems in long terms while increasing weight is the risk factor of cardiovascular disease, diabetes, malignancy and cerebrovascular accidents. If newborn baby weight exceeds the 90th percentile at birth plus obese mother or diabetes during gestation, then the baby is more likely to acquire metabolic syndrome and become obese during childhood period and this cycle of obesity may be passed from generation to generation.[6,7]

Maternal obesity is associated with an elevated risk

of intrapartum caesarean section, predominantly for failure to progress, the mechanism of which is suggested to be due to reduced uterine contractility.[8,9] In a former published literature concerning the effect of maternal obesity on mode of delivery after induction of labor for prolonged pregnancy, there was no significant trend for increasing postpartum hemorrhage with increasing maternal BMI.[10] An increased trend in the incidence of postpartum hemorrhage over time has been observed in high resource countries, but the reason for this increase remains uncertain.[11] Recently, the International Postpartum Hemorrhage Collaborative group stated a key recommendation to further investigate maternal obesity as a potential risk factor for postpartum hemorrhage.[12]

Increasing burden postpartum haemorrhage in developing countries over the past years not explored and few related studies investigating PPH risk factors included BMI or exploring PPH risk in nulliparous ladies. Therefore, the present study was conducted at tertiary care teaching hospital to determine the frequency of postpartum haemorrhage in obese primigravid women and the observations of the study shared to various health institutions and in academic seminars.

PATIENTS AND METHODS

This case series study of six months was conducted from 1st October 2014 to 30 March 2015 in the department of gynecology and obstetrics at Liaquat University Hospital Jamshoro. All the primigravid obese ($\geq$30kg/m^2) ladies 18 to 35 years of age with 37-42 weeks of gestational age were evaluate for the occurrence of PPH by estimating blood loss of greater than 500 ml of blood following vaginal delivery or 1000 ml of blood loss following caesarean section. The women were followed for one week if she has developed bleeding within 24 hours and blood loss estimated by kidney tray. One kidney tray is 500ml estimated was labeled as postpartum haemorrhage, if bleeding was 500ml in normal vaginal delivery or 1000ml after caesarean section. All these information with demographic was entered in to proforma. All those women fulfilling the inclusion criteria were registered after approval from ethical committee and taking informed written consent from the patients.

All data was entered and analyzed through statistical package SPSS version 17. Categorical variables like mode of delivery (caesarean section, vaginal delivery) and post-partum haemorrhage, maternal and gestational age, gestational were presented in the form of percentages and frequencies. Chi-square test was applied for qualitative variables and p-value less than or equal to 0.05 was taken as significant.

RESULTS

Total 203 primigravid obese ladies were studies, the age group was analyzed which shows that in age group between 18-25 years were 105(52.00%) women, in age group of 26-30 years were 62(30.69%) women and age group of 30 years and above were 35 (17.31%) women (Table-I) with mean age ± SD 24.6±6.20 (yrs). By applying descriptive statistics it was observed that mean age of women was 24.6 years with standard deviation of ±6.2 years. Modes of delivery were evaluated which shows that 135 (66.50%) women underwent C-section and 68 (33.49%) women had normal vaginal delivery (Table-II) while the frequency of PPH mentioned in (Table-III). The frequency observed for PPH 71(34.97%) predominantly in subjects underwent C-section 50 out of 71 (70.4%) as compared to normal vaginal delivery 21 out of 71 (29.5%) respectively.

Age group (Years)	Frequency	Percent
18-25	105	52.00
26-30	63	30.70
> 30	35	17.30
Total	203	100

Table-I. Distribution of age

Cesarean section	135	66.50
Normal vaginal delivery	68	33.47
Total	203	100

Table-II. Mode of delivery

PPH	Frequency	Percent
Yes	71	34.97%
No	132	65.02%
Total	203	100%

Table-III. Frequency of postpartum hemorrhage (PPH) in obese primigravid women

DISCUSSION

Maternal obesity is responsible for various maternal and foetal complications especially primigravida obese women are more likely to acquire adverse outcomes. In this study majority of the obese primigravida women underwent C-section 135 (66.50%) and this is inconsistent to the study by Mandal D, et al study.[13] Frequency of labour induction was higher (63.03% vs 35.5%) in this study population because of the existence of co-morbidities like diabetes mellitus (34.64%), pregnancy induced hypertension (18.42%), premature rupture of membrane (18.85%) and post-dated pregnancy (14.91%).[14] Comparison with another national study[15] showing the frequency of PPH 6% in primigravida and the observations of this study are in accordance to expect range mentioned in former literature.[15] The higher rate in present could be due to variability in study population; this is tertiary care governmental hospital receiving the referral patients from urban as well remote areas in emergency. Rate of PPH is higher in emergency C-section as compared to elective C-section, consistent with the study by Rouse DJ etal.[16] Another study has also primarily explored the relationship between maternal obesity and PPH[17] while Blomberg reported little increased risk in obese women following vaginal delivery, but the PPH risk was variable according to class of obesity following caesarean section.[18] It had been reported that gaining of weight leads to caesarean section, especially emergency intrapartum caesarean section, and the present study confirmed that this mode of delivery associated with increase rates of PPH among the whole study population. Challenging surgery in obese patients is associated increased blood loss with prolonged operative time; the other morbidities that we observed for postpartum haemorrhage after C-section are also consistent with former literature.[19-23]

CONCLUSION

Obesity carries a significant increased risk of complications during pregnancy and maternal risks during labour are PPH and more frequent C-section while nulliparous obese women have higher risk for PPH. Therefore active management of third stage of labour is recommended and there should be proper vigilance and appropriate PPH management in obese primigravida women.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
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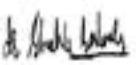
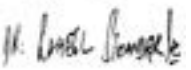
2	Dr. Rabail Rani Junejo	Analysis and interpretation of data contributed in conception and shares its expert research opinion	
3	Dr. Shahla Baloch	Drafting the article and shares its expert research opinion and experience in finalzing the manuscript also contributed in conception and interpretation of data and give his expert view for manuscript designing	
4	Prof. Raheel Sikandar	Contributed in conception and interpretation of data and give his expert view for manuscript designing	
5	Dr. Mehrunnisa Khaskheli	Drafting the article and shares its expert research opinion and experience in finalizing the manuscript