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ORIGINAL ARTICLE

Frequency of Severe Postpartum Hemorrhage After Delivery Among Obese Pregnant Women

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ABSTRACT

Objective: To determine the frequency of severe postpartum hemorrhage after delivery among obese pregnant women.

Methods: This case series was carried out from 15th December 2015 to 15th October 2016 at Department of Obstetrics & Gynaecology, Nishtar Hospital, Multan. A total of 505 obese pregnant women with gestational age 38–41 weeks and parity ≤ 3 undergone vaginal delivery or elective cesarean section were included. Women with history of hypertension, diabetes, renal disease and pre-eclampsia were excluded. In vaginal delivery women were given prostaglandin E2 vaginal gel 1 gm and the same dose repeated at six hourly intervals for maximum three doses under supervision of consultant. In patients undergone elective caesarean section, caesarean section was done by consultant gynecologist. After delivery, data was collected for severe postpartum hemorrhage.

Results: Age range in this study was 25 to 35 years with mean age of 30.318 ± 2.71 years. Mean gestational age was 39.429 ±1.11 weeks and mean BMI was 28.289± 1.06 Kg/m^2. Majority of the patients were of 25–30 years 268(53.1%). Parity of 2–3 was present in 69.3% women. Cesarean Section rate was 34.3% and vaginal delivery was 65.7%. Severe PPH was seen in 11.1% obese women.

Conclusion: Obese women should be regarded as high risk for PPH.

Keywords: Obesity, Mode of delivery, Severe postpartum hemorrhage

INTRODUCTION

The World Health Organization defines weight troubles as physique mass index (BMI) ≥ 30 kg/m2.1 Obesity has emerged as an quintessential hazard trouble in modern-day day obstetrics worldwide.

In short-term, it has been associated with an make greater in being pregnant troubles such as gestational diabetes mellitus (GDM), pre-eclampsia and postpartum hemorrhage, and has been related with an lengthen in obstetric interventions such as caesarean regional and induction of labour.3 In the longer term, maternal weight troubles is related with an accelerated lifelong hazard of diabetes mellitus and cardiovascular disease for the girl and an accelerated hazard of childhood weight troubles for her offspring.

Concerns about the make larger in scientific dangers are fuelled with the recommended useful useful aid of attainable of the use of proof that the incidence of maternal weight troubles is excessive and rising .[5]

The incidence of pregnancy-related pathology is increased in overweight patients. Indeed, in chubby patients, labor is brought on twice as frequently and vaginal transport has to be interrupted more usually due to an odd fetal coronary coronary heart price or fetopelvic disproportion. There are consequently 1.6–3 times greater cesarean sections in overweight women. From a surgical point of view, obesity complicates exposure, will expand the length of the operation, blood loss, and the dimension of hospitalization.

From last two tenner, PPH rate has been increased in all popular countries.[10,11] This indispensable rise, with its related maternal morbidity and mortality, is no longer described by means of ability of corresponding changes in risk elements such as prolonged fee of caesarean place and origination of labour . A simultaneous upward push in international weight problems has raised assumption that maternal weight troubles may additionally additionally be responsible for this increase in PPH rate.Associations between weight problems and PPH have been stated in countless lookup investigating the relationship between elevated BMI and delivery effects in a typically going on obstetric population. Arrowsmith S and associates has found in a study that frequency of severe PPH after vaginal delivery was 3.7% versus 10.3% after caesarean section in obese women.[17]

Seligman LC and associates has found in another study that frequency of severe PPH following vaginal delivery was 1.46% versus 1.33% after caesarean section in obese women.[18]

No such study has been done before in our local population. So we have planned to determine the frequency of severe postpartum hemorrhage among obese pregnant women in our local population. Our study will provide further data from our general population and will give new insights concerning the complication in term of postpartum hemorrhage associated with obesity in pregnancy. Our study will also pave the way to take the obesity as a serious risk factor for the postpartum hemorrhage so that our health professionals will take proactive approach while dealing with obese pregnant women of our general population.

MATERIAL AND METHODS

This case series was carried out from 15th December 2015 to 15th October 2016 at Department of Obstetrics & Gynaecology, Nishtar Hospital, Multan. Obese pregnant women (BMI ≥ 30 kg/m^2) having singleton pregnancy and age between 25– 35 years having vaginal delivery or undergoing cesarean section were recruited for the study after permission from ethical committee of the Institute. Informed consent was taken. Basic demographics were recorded and ultrasound was done to confirm singleton pregnancy. Patients with history of hypertension, diabetes, renal disease or having pre-eclampsia were excluded from the study.

In vaginal delivery women were given prostaglandin E_2 vaginal gel 1 gm and the same dose repeated at six hourly intervals for maximum three doses under supervision of consultant. In case of elective caesarean section procedure was done by consultant gynecologist having 3 years of post fellowship experience.

After delivery, data was collected for severe postpartum hemorrhage as per operational definition (estimated blood loss ≥ 1000 ml within 24 hours postpartum after cesarean section and ≥ 500 ml after vaginal delivery). Frequency and share used to be computed for qualitative variables like parity, mode of transport and immoderate postpartum hemorrhage. Mean±SD used to be as rapidly as for quantitative variables like age, gestational age and BMI. Stratification used to be finished with regards to age, gestational age, mode of transport and parity to see the have an effect on of these variables on outcome. Post stratification Chi rectangular take a showcase up at used to be utilized see affiliation

of these variables with excessive postpartum hemorrhage. p ≤0.05 used to be as rapidly as viewed statistically significant.

RESULTS

Age range in this study was from 25 to 35 years with mean age of 30.318 ± 2.71 years. Mean gestational age was 39.429 ±1.11 weeks and mean BMI was 28.289± 1.06 Kg/m^2 as shown in Table–I. Majority of the patients were of 25–30 years 268(53.1%) as shown in Table–II. Majority of women were having 38–39 weeks gestation (57%) Table–III. Majority of women were para 2–3 (69.3%) Table–IV. Cesarean section rate was 34.3% and vaginal delivery was 65.7% as shown in Table–V. Severe PPH was seen in 11.1% obese women (Table VI).

Table 1: Descriptive Statistics of Patients

Variables	Mean	S.D.
Age (years)	30.318	2.71
Gestational Age (weeks)	39.429	1.11
BMI(Kg/m^2)	28.289	1.06

Table 2 Age Distribution of Obese Pregnant Women

Age (years)	No. of Patients	%age
25 – 30	268	53.1%
31 – 35	237	46.9%
Total	505	100%

Table 3: Gestational Age Distribution of Obese Pregnant Women

Gestational Age (weeks)	No. of Patients	%age
38 – 39	288	57.0%
40 –41	217	43.0%
Total	505	100%

Table 4: Parity Distribution of Obese Pregnant Women

Parity	No. of Patients	%age
0 – 1	155	30.7%
2 – 3	350	69.3%
Total	505	100%

Table 5: Mode of Delivery of Obese Pregnant Women

Mode of Delivery	No. of Patients	%age
Vaginal	332	65.7%
Cesarean Section	173	34.3%
Total	505	100%

Table 6: Severe Postpartum Hemorrhage in Obese Pregnant Women

Severe PPH	No. of Patients	%age
Yes	56	11.1%
No	449	88.9%
Total	505	100%

Table 7: Age Distribution of Obese pregnant Women with respect to Severe PPH

Age (in Years)	No. of Patients with PPH	No. of Patients without PPH	p-value
25 – 30	29	239	0.841
31 – 35	27	210	
Total	56	449	

Table 8: Gestational Age Distribution of Obese pregnant Women with respect to Severe PPH

Gestational Age (in Weeks)	No. of Patients with PPH	No. of Patients without PPH	p-value
38 – 39	35	253	0.3802
40 – 41	21	196	
Total	56	449	

Table 9: Parity Distribution of Obese pregnant Women with respect to Severe PPH

Parity	No. of Patients with PPH	No. of Patients without PPH	p-value
0– 1	23	132	0.074
2 – 3	33	317	
Total	56	449	

Table 10: Mode of Delivery of Obese pregnant Women with respect to Severe PPH

Mode of Delivery	No. of Patients with PPH	No. of Patients without PPH	p-value
Vaginal	34	298	0.399
Cesarean section	22	151	
Total	56	449	

Stratification of age, gestational age, parity and mode of delivery with respect outcome are shown in Table VII,VIII, IX and X respectively. None of these had significant association with outcome.

DISCUSSION

Postpartum haemorrhage has long been a significant health concern in multiple developed and developing countries. Maternal obesity may be responsible for the burden of PPH, as different studies have shown a correlation in the obstetric population between birth results and increased BMI.[19] For the mother and foetus, weight gain raises the risk of intrapartum, antepartum and postpartum complications.[20] Our research has shown that obese women who give birth to a singleton child have an increased risk of severe PPH, irrespective of the mode of delivery, and that this risk is independent of many other known risk factors for severe PPH. Previous studies have shown that the rise in risk of PPH in obese women has been largely explained by an increased caesarean section incidence at the same time.[21,22]

Severe PPH was seen in 11.1% obese women in our study. Frequency of severe PPH was seen 10.2% in vaginal delivery versus 12.7% in cesarean section in obese women (p=0.399). Our study results are compatible with study done by Seligman LC and Associates, who found in a study that frequency of severe PPH following vaginal delivery was 1.46% versus 1.33% after caesarean section in obese women with no significance between mode of delivery.[18]

Comparisons are challenging between the few last publicatio ns documenting maternal obesity and general birth results becaue of absent ordifferent

explanation of PPH and no one have separately

examined chance of PPH after vaginal delivery and caesarean section.

Our findings are consistent with a study adjusted for confounding factors and reported a double increase in the risk of substantial PPH in obese women.[21]

Blomberg M[23] announced a positive correlation among obesity and the postpartum haemorrhage in a population-based study. In the study of 1,114,071 Swedish women having only singleton pregnancies, the incidence of atonic haemorrhage was marked up by 14%, 47% and 114% in a women in obesity groups I, II and III, relative to non-obese women , respectively.

In a Japanese study[24], obese women had a 1.1-fold and 1.9-fold marked up risk of postpartum haemorrhage relative to non-obese women later vaginal and caesarean delivery, respectively, of 97,157 women along singleton pregnancies.

Karine Goueslard et al[25] assessed 1367 obese pregnant women and severe PPH was found in 85 (6.22%).

Lill Trine Nyfløt et al[26] found an improved rate of risk of severe PPH in obese women. Women having BMI 30.0–34.9 had severe PPH in 82(7.7%), BMI 35.0–39.9 had severe PPH in 25(2.4%) and women having BMI ≥40 had severe PPH in 7(0.7%).

Of the 743,630 those pregnant women they delivered between 2004 and 2013 in Washington State, obese class III had a 30 percent decrease in extreme PPH odds relative to the normal body mass index.[27] Alexander J Butwick et al[28] conducted a study cohort comprised of 1389641 (63.8%) vaginal deliveries, 77395 (3.6%) instrumental deliveries, and 709637 (32.6%) cesarean deliveries. Among vaginal deliveries, compared to average body mass index women, overweight and women of each obese class had up to 19 percent higher odds of postpartum haemorrhage or

atonic haemorrhage. In comparison, no associations with postpartum haemorrhage, atonic haemorrhage, or extreme haemorrhage in the instrumental delivery cohorts were identified among being overweight and each obesity class status. The odds of severe hemorrhage were even lower for obesity class I (aOR=0.77; 99% CI=0.67–0.87), class II (aOR=0.76; 99% CI=0.64–0.91), and class III (aOR=0.76; 99% CI=0.62–0.94) compared to normal body mass index women.

CONCLUSION

As suggested with the International Postpartum Hemorrhage Collaboration Group, we support the admittance of obesity in future studies exploring risk aspect for extreme PPH.[14] The high risk of PPH for obese women should be considered, along a double increase in the risk of significant PPH (≥1000 mls) relative to average weight women, irrespective of mode of delivery.

We therefore recommend that there be improved diligence and training for the management of PPH in obese women, in addition to the normal practise of active management of the third stage of labour.

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