PREGNANCY OUTCOME IN FEMALES WITH HIGH BODY MASS INDEX

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ABSTRACT

Objective: To determine the various pregnancy outcomes in females with high pre pregnancy Body Mass Index (BMI).

Methods: It was descriptive case series at Sheikh Zayed Hospital, Rahim Yar Khan. Duration of the study was from 30-06-2016 to 31-12-2017. In the present study, pregnant females with age of gestation less than 12 weeks presenting with their first ante natal visit falling in the age range of 20-40 years having pre pregnancy BMI > 25 kg/m^2 were included. Then these cases were followed for their whole pregnancy to look for various outcomes.

Results; In the present study there were 150 subjects enrolled with high pre pregnancy BMI. Mean age of the participants was 28.41±4.67 year and mean BMI was 28.31±3.57 kg/m^2. Regarding various outcome the most common one was C section which was seen in 42 (28%) of the cases, followed by PIH seen in 35 (23.34%) of the cases, while pregnancy remained uneventful in only 21 (14%) of the cases.

Conclusion: High pre pregnancy BMI leads to various complication, which are seen in almost 8 out of 10 cases and the most common one is C section.

Key words: BMI, C section, PIH

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INTRODUCTION

Pre-pregnancy obesity is not uncommon and has emerged as a great obstetric health concern globally in the recent era. It's number is rising as overall incidence of obesity is rising. Local data is lacking but the data from Australia has revealed this prevalence in 34% of the cases.[1]

The data has shown that both pre pregnancy obesity and rapid gain of weight during the pregnancy both can impact the pregnancy outcome in various ways and can result in a wide variety of outcomes. [2]

The most consistently developed maternal complications during pregnancy and delivery are pregnancy induced hypertension (PIH), pre-eclempsia, venous thromboembolism, gestational diabetes mellitus (GDM), labor induction, postpartum hemorrhage, miscarriage, urinary tract infections and effects on mode of deliveries like instrumentation and/or surgery. Maternal overweight is related to a higher risk of cesarean section (CS) deliveries and a higher incidence of anesthetic and postoperative complications in these deliveries. [3-5] Obese women are also said to experience increased rates of puerperal infection and decreased rates of breastfeeding initiation or continuation.

METHODS

This descriptive case series was conducted during 01-06-2016 to 31-12-2018 at Sheikh Zayed Hospital, Rahim Yar Khan in which the cases were selected via on probability consecutive sampling. The pregnant females with age of gestation less than 12 weeks presenting with their first ante natal visit falling in the age range of 20-40 years having pre pregnancy BMI > 25 kg/m^2 were included. The cases with BMI less than or equal to 25, those having end stage renal or hepatic failure and those with prior history of GDM, pregnancy induced hypertension were excluded from this study. Then these cases were followed monthly for various pregnancy outcomes.

SPSS 22.0 was used for data analysis and frequency and percentages were calculated for categorical data and mean and standard deviation for quantitative data.

RESULTS

In the present study there were 150 subjects enrolled with high pre pregnancy BMI. Mean age of the participants was 28.41±4.67 year and mean BMI was 28.31±3.57 kg/m^2 as shown in table I. There wee 24 (16%) cases graduated and 108 (72%) were from rural population (table II). Regarding various outcome the most common one was C section which was seen in 42 (28%) Of the cases, followed by PIH seen in 35 (23.34%) of the cases. GDM was seen in 24 (16%), pre term labor in 20 (13.33%) and miscarriage in 8 (5.33%) of subjects while pregnancy remained uneventful in only 21 (14%) of the cases as shown in table III.

Table I. Demographics (n= 150)

Variables	Mean ± SD	Range
Age	28.41±4.67	20-40
BMI	28.31±3.57	26-34
Gravida	4.31±2.19	0-10
Parity	3.79±1.23	0-6

Table II. Study variables (n= 150)

Variables		Number	%
Educational status	Graduate	24	16
	Undergraduate	126	84
Residential status	Rural	108	72
	Urban	42	28

Table III. Pregnancy outcome (n= 150)

Variables	Number	%
C section	42	28
PIH	35	23.34
GDM	24	16
Preterm labor	20	13.33
Miscarriage	8	5.33
Uneventful	21	14
Mortality	0	0

DISCUSSION

Obesity is one of the morbid entities and can predispose to various other complications of the pregnancy. Gestational DM, pregnancy induced HTN, miscarriages and difficulty in delivery are the cardinal ones. Its incidence is highest in the developed countries and seen in around 20% of the cases in the United States; the data in Pakistan is lacking.[6-8]

The findings of our study revealed that regarding various outcome the most common one was C section which was seen in 42 (28%) Of the cases, followed by PIH seen in 35 (23.34%) of the cases. GDM was seen in 24 (16%), pre term labor in 20 (13.33%) and miscarriage in 8 (5.33%) of subjects while pregnancy remained uneventful in only 21 (14%) of the cases

These results were comparable with the findings of the studies done in the past where high degree of events were noted during the course of pregnancy in females with pre pregnancy obesity. The results from the study done by Khuhro BN et al stated that the most common complication in their study was also C section which was observed in 28% of the cases and it was followed by gestation DM in 15%, pre-term labor in 15% of the subjects. While pregnancy induced HTN was seen in 8% and miscarriages in only 5% of the cases.[9]

This findings was also supported by the case series of Vinturache A, where same complication was observed and even higher numbers were noted and was seen in 46% of the cases with BMI > 25 kg/m^2.[10]

In another study by Ali HS et al they found this C section in 48% of the pregnant females with high BMI and found GDM in less than 2% of their cases while in present study this was noted in 16% of the subjects.[11] PIH. Riaz S et al found PIH in 23% of subjects which was 13.33% in our study.[12]

CONCLUSION

High pre pregnancy BMI leads to various complication, which are seen in almost 8 out of 10 cases and the most common one is C section.

ETHICAL APPROVAL

The study was approved from Institutional Review Board of Sheikh Zayed Medical College/Hospital, Rahim Yar Khan.

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AUTHOURS CONTRIBUTIONS

SZ: Concept, Design Manuscript Writing
TM, SY: Data Collection
AT Data analysis and interpretation
ZH: Statistical Analysis
SA: Discussion