EDITORIAL

Obesity and Obstetrics

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Introduction

As a worldwide epidemic of the probably the most-commonest life style – Obesity, spreads it tentacles, we obstetricians should be ready to prepare ourselves and the patients. It is presenting a challenge to all the healthcare professionals and the health system of the country.

Body mass index (BMI) has been used to classify the individuals into different status of the individuals from underweight to super obesity. The table shows the classification of the individuals as per BMI. World Health Organization estimates 20% of obese and overweight female population of the world resides in our country. A total of about 35% of adult women worldwide are estimated to be overweight (BMI > 25) a third of whom are obese (Table 1).[1]

Fat cells or adipocytes are an active endocrine organ which in excess lead to unregulated harmful effects on the reproductive, cardiovascular and metabolic systems of the body. These changes affect the placental growth and function, this has been linked with development of preeclampsia, fetal growth restriction. These changes may alter the metabolic programming of the developing fetus thus resulting in various health problems in the adulthood.[2,3]

By this editorial we will discuss the problems caused due to this epidemic level noncommunicable challenge to the mother, baby and the obstetrician. We discuss the challenges faced by us which are ever increasing due to availability of the bariatric surgery and various obesity control medications being available in the market in the next volume of the journal.

Complications During Pregnancy

Obesity with pregnancy makes the complications occurring commonly during pregnancy more severe and difficult to manage. These involve vulvar varicosities, cholelithiasis, thromboembolic complications, anemia, UTI's, intertriginous type of skin disease, exertional dyspnea, bronchitis, and breathlessness. Besides, obesity leads to few peculiar complications during the pregnancy.

Early Pregnancy Loss

There is an increased risk of spontaneous abortion [odds ratio (OR), 1.2; 95% confidence interval (CI), 1.01–1.46] and recurrent miscarriage (OR, 3.5; 95% CI, 1.03–12.01) in obese women compared with age-matched controls.[4] Obese women are also at increased risk of pregnancies affected by neural tube defects; hydrocephaly; and cardiovascular, orofacial, and limb reduction anomalies. This increased risk of miscarriage in obese women has been attributed to–Impaired folliculogenesis and poor oocyte quality and secondly to impaired endometrial receptivity.

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Table 1: BMI, categories and risk of morbidities

Group	*BMI (kg/m^2)*	*Risk of disease/comorbidities*
Underweight	<18.5	Low
Normal weight	18.5–24.9	Average
Overweight/pre-obese	25–29.9	Increased
Obesity class I	30–34.9	Moderate
Obese class II	35–39.9	Severe
Obese class III	40 or more	Very severe

Stillbirth

Obese women are at increased risk of still birth and this risk rises with increasing obesity. In a systematic review and meta-analysis, the relative risk for each 5-unit increase in maternal BMI in overweight and obese pregnant women, compared with normal-weight pregnant women, was 1.21 for fetal death.[4]

Preeclampsia

Obesity and hypertensive disorders during pregnancy are closely associated with each other with 2.5–3.2-fold increased risk. Obesity contributes to hypertension by: (1) Reduction of available nitric oxide due to oxidative stress, due to increased inflammation and free fatty acids, and lower concentration of circulating antioxidants; (2) Increase of sympathetic tone; and (3) Increased release of angiotensinogen.[4,5]

Gestational Diabetes Mellitus (GDM)

The exaggerated increase in the insulin resistance in obese women during pregnancy makes the prevalence of GDM 3.6 times more than in the nonobese women. The risk of GDM further increase by 0.5% with every unit increase in BMI.[4]

Preterm Delivery

Obesity increases the risk of both the spontaneous and induced preterm delivery. The induced preterm delivery is commonly due to preeclampsia, FGR, the spontaneous preterm delivery has been linked with greater levels of relaxin levels causing the weakening of cervical collagen matrix.[5]

Intrapartum Problems

Induction and Progress of Labor

These women should be delivered by the estimated date of delivery. The route of delivery should be relied on standard obstetric indications. Elective and planned cesarean delivery gives no advantage over planned vaginal delivery in terms of morbidity to the mother or the newborn.

Obese women have increased chances of induction of labor due to their increased incidence of pregnancy complications and then there is also increased risk for induction failure. Obese women show poor response to cervical ripening with prostaglandins, they also respond poorly to oxytocin, both these factors increased the rate of cesarean delivery.[5,6]

Cesarean Section Delivery

Obesity is a risk factor for both elective and emergency cesarean delivery and the risk increases with increasing maternal weight and BMI. Obesity related pregnancy complications, higher infant birth weight, and increased frequency of preterm and postterm delivery account for some of the higher risk of cesarean delivery.

Cesarean section in obese women is always more technically challenging with in more operative time, higher rate of surgical site infection, prolonged hospitalization, clotting disorders, and respiratory airways complications. One-third of maternal deaths associated with obesity complications follow cesarean delivery.[5,6]

Anesthesia Complications

The obese pregnant women pose a significant anesthetic risk. Placement of epidural or spinal anesthesia has been shown to be more difficult and requires multiple attempts at needle insertion due to misidentification of landmarks with increased chances of failure of regional anesthesia. Endotracheal intubation for general anesthesia is difficult in obese patients. Reduced gastric motility, increased gastric residual volume increase the risk of aspiration pneumonia in obese women. All this results in increased ICU admission due to anesthetic complications.[6]

Postpartum Problems

Postpartum Hemorrhage (PPH)

Obese women have higher risk of PPH of both the atonic and traumatic causes. The atonic PPH is increased due to macrosomia, overdistension of the uterus. The traumatic PPH is due to big baby, instrumental delivery, infection.[4]

Thromboembolic Disease

These women need to be ambulated early, one should be using stockings and inj LMWH for prevention of thromboembolic complications.[5]

Breastfeeding Challenges

These women have problems in the initiation and the duration of the breastfeeding.

Postnatal Depression

Obese women are at higher risk of postpartum psychiatry disorders in terms of PP blues and PP depression.[4]

Facilities and Equipment Considerations

The care for these women requires special instruments and equipments during antenatal care in the form of large NIBP cuffs, USS machines with deeper penetrations, large and wide beds. During labor or cesarean these patients require special long needles for epidural/spinal anesthesia, extra human resource for shifting of the patient, special instruments to retract the thick abdominal wall, special set for intraarterial monitoring etc.[5,6]

Thus, this common medical challenge poses a high risk to the mother and the newborn and also puts extra load on the obstetrician. This also necessitates the need for health education to the masses to optimize the pre-pregnancy weight and improve our future generations.

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