

Care of the Morbidly Obese Parturient

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Keywords

- Obesity • Obstetric anesthesia • Maternal mortality • Gestational diabetes
- Gestational hypertension • Airway management

Key points

- Obesity in the United States is increasing, even epidemic, in prevalence and has a negative impact on the pregnant patient and her fetus, increasing the risk of pregnancy complications and poor pregnancy outcomes.
- Obese parturients require a multidisciplinary obstetric care team to manage the many consequent physiologic derangements.
- As members of the obstetric care team, anesthesiologists must be aware of the potential metabolic, cardiovascular, neurologic, and respiratory comorbidities.
- Balance of the obstetric, maternal, fetal, and anesthetic concerns of these patients can be optimized with early interventions, consultation and education, preparation for potential emergent interventions, and a multidisciplinary approach to both patients: mother and fetus.

INTRODUCTION

Body mass index (BMI) describes a person's thinness or fatness. BMI is a ratio of weight to height, specifically weight (kilograms) divided by height (meters) squared. The World Health Organization (WHO) classifies BMI as underweight, normal weight, and obese. The obese category is further subdivided (Table 1) [1]. High BMI is correlated with increased prevalence of comorbidities and symptoms that affect quality of life. Overweight and obese individuals are more likely to suffer from obesity-related diseases such as cardiovascular diseases, diabetes mellitus (DM), respiratory symptoms limiting daily activity, low back pain, and overall impairment of life quality [2].

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Table 1
World Health Organization Weight Classification

| BMI kg/m ² | Classification | Health impairment [1] |
|-----------------------|----------------------|-----------------------|
| <18.5 | Underweight | — |
| 18.5–24.9 | Normal weight | Reference group |
| 25–29.9 | Overweight, preobese | Increased |
| 30–34.9 | Obese class I | Moderate |
| 35–39.9 | Obese class II | Severe |
| >40 | Obese class III | Very severe |

Data from Saravanakumar K, Rao SG, Cooper GM. Obesity and obstetric anesthesia. Anesthesia 2006;61:36–48.

BMI was initially designed as a measure for population studies, comparing the prevalence of obesity across geographic areas or longitudinal time frames. Health care providers then adopted BMI terminology to facilitate communication regarding patient care management and risk reduction.

Obesity is a growing problem for most parts of the world. It is no longer an epidemic for only the wealthy industrialized nations, such as the United States, United Kingdom, and other European countries. The obesity prevalence is increasing in the developing world too, in places such as India, Mexico, South Africa, and Argentina [3].

With obesity rates on a rapid increase in the United States for the past quarter century, the Healthy People Goal 2010 was announced. Health care policy makers were hoping to positively affect the health of the nation by raising awareness of several health issues. The goal focused on nutrition and healthy weight status; maternal and perinatal mortality; cesarean delivery rate; tobacco and substance abuse; access to health care; and mental health awareness [4]. The nutrition and educational efforts envisaged a decrease in the obesity epidemic by more than half. The goal: 15% obesity among adults.

Three years later, the goal has yet to be attained and the reality is moving farther away from the 2010 target. In the most recent National Health and Nutrition Examination Survey (NHANES) report, 2009 to 2010, more than two-thirds (69%) of the US adult population are overweight or obese. More specifically, 33.3% fall into the overweight category (BMI 25–29.9), and 35.7% of US adults are obese (BMI ≥ 30) [5].

For women in peak childbearing years, ages 20 to 39 years, the obesity statistic is only minimally better, with 23.9% being overweight and 31.9% being obese. There has been a greater increase in obesity in men over the past decade than in women. In addition, the percentage of women battling obesity has held steady for the past two NHANES reports [6]. Despite the steady state of obesity among women, the concerning statistic remains that one-third of all patients admitted to hospital for obstetric care are obese.

Although these statistics seem to paint a stable picture, looked at another way, the problem is worsening because the severity of obesity continues to increase. The obesity table is becoming top heavy, with more people making up

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