

ANESTHESIA FOR THE OBESE OBSTETRIC PATIENT

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INTRODUCTION

Over the last 40 years Obstetricians have been concerned about improving Perinatal Mortality outcomes throughout the world. As a result much attention has been focused on the commonly recognized problems associated with pregnancy such as Pregnancy Induced Hypertension, Gestational Diabetes, Preeclampsia/Eclampsia, Cord Prolapse, Abruptio Placentae etc. While weight gain during pregnancy has been approached, Obesity in Pregnancy has not been under the same scrutiny as other serious issues faced by the Obstetrician. In fact, even the definition of what constitutes obesity has never quite been determined. This chapter is focussed on obesity during pregnancy.

DEMOGRAPHICS AND THE SCOPE OF THE PROBLEM

The Nation Centerfor Health Statistics estimates that 54% of Americans are overweight and about 21% are obese. Since the definition of what constitutes obesity during pregnancy varies, it is difficult to put accurate numbers on this diagnosis. However, 18% of US women have a Body Mass Index (BMI) in excess of 30 – commonly recognized to indicate obesity. One group estimates that 26% of women weigh equal to or more than 200lbs, 8% equal to or more than 250lbs, and 2% equal to or more than 300lbs. By this measure 36% of all US pregnancies meet one definition of obesity i.e. greater than 200lbs. By comparison, the rate for preeclampsia is between 5 and 8%, depending on the source. Of course these data are not mutually exclusive since the risk of developing preeclampsia doubles for every 5 – 7 Kg/M² increase in BMI.

ASSOCIATED DISORDERS

There are consequences for obesity which are focused on the medical condition of the patient, the neonate, the obstetric management, and the anesthetic management. Of particular importance are the common obstetric diseases such as Preeclampsia/Eclampsia, Gestational Diabetes, and Pregnancy Induced Hypertension. There are many other conditions more common in the obese obstetric patient including, multiple pregnancies, abnormal presentations, fetal macrosomia, prolonged

labor, post-partum hemorrhage. Infants of obese parturients have an increased risk of low Apgar scores, neural tube defects, obesity, and an increased requirement for admission to an intensive care unit.

Anesthesia problems include but are not limited to difficult airway management, increased risk for aspiration, technical difficulty with anesthesia, prolonged surgery, and increased blood loss.

PREOPERATIVE ANESTHESIA PROBLEMS

Intravenous access frequently is more challenging. Veins are invisible beneath adipose tissue, and anesthesiologists are consulted for invasive intravenous access much more commonly in obese women. Since all parturients require intravenous access these women have frequently undergone multiple attempts at I/V access before the anesthesiologist arrives on the scene. They are often tearful and quite frustrated about having been hurt many times with no success. They require intense sensitivity and careful planning with expert assistance and all necessary equipment present before more attempts are made. Full informed consent is vital to a good understanding of the options for analgesia, and the benefits and possible complications should be discussed as thoroughly as the patient desires.

ANESTHETIC MANAGEMENT

Labor and Delivery

The possible array of analgesia options for labor and delivery include intramuscular, and intravenous analgesics (narcotics) and the full range of regional techniques. Paracervical blocks are much more difficult in obese patients especially when the patient is already in painful labor. Epidural anesthesia can be more difficult in the obese parturient, and combined spinal-epidural might be a less favorable option. Saddle block and continuous spinal anesthesia are also options. A good anesthetic is essential for instrumented vaginal delivery which might also be more common in the obese. It is also wise to avoid motor weakness if possible in this population since getting about might be very difficult.

Cesarean Section

Choices include general anesthesia or one of the regional techniques. Since the number of deliveries which come to C/Section are increased in the obese parturient, technique of anesthetic management has received much attention. There is good evidence to support the notion that all regional techniques are more difficult in the obese population, and that the safety is reduced. Issues such as position during the block placement, posture, and the effect of gravity and adipose tissue on local anesthetic spread have all been studied. Certainly landmarks are more difficult to identify, and equipment might have to be changed to cope with deeper anatomic structures.

It is now acknowledged that the obese parturient is more likely to have a difficult airway. The literature contains many articles which confirm this. The outcome and data from the closed claims projects also draws attention to the potential for airway problems in this population. A thorough understanding and appreciation of airway management in the obese parturient is fundamental to the safety of this population.

POSTOPERATIVE COMPLICATIONS

by far the primary reason for post operative morbidity is the airway management in patients undergoing general anesthesia for C/Section. Other areas requiring attention include prolonged surgery and increased blood loss, which are related to each other.

POSTOPERATIVE ANALGESIA

Epidural anesthesia may be the best option although other modalities have been used. there are a couple of case reports which document the danger of using patient controlled narcotic techniques in the presence of severe obesity.

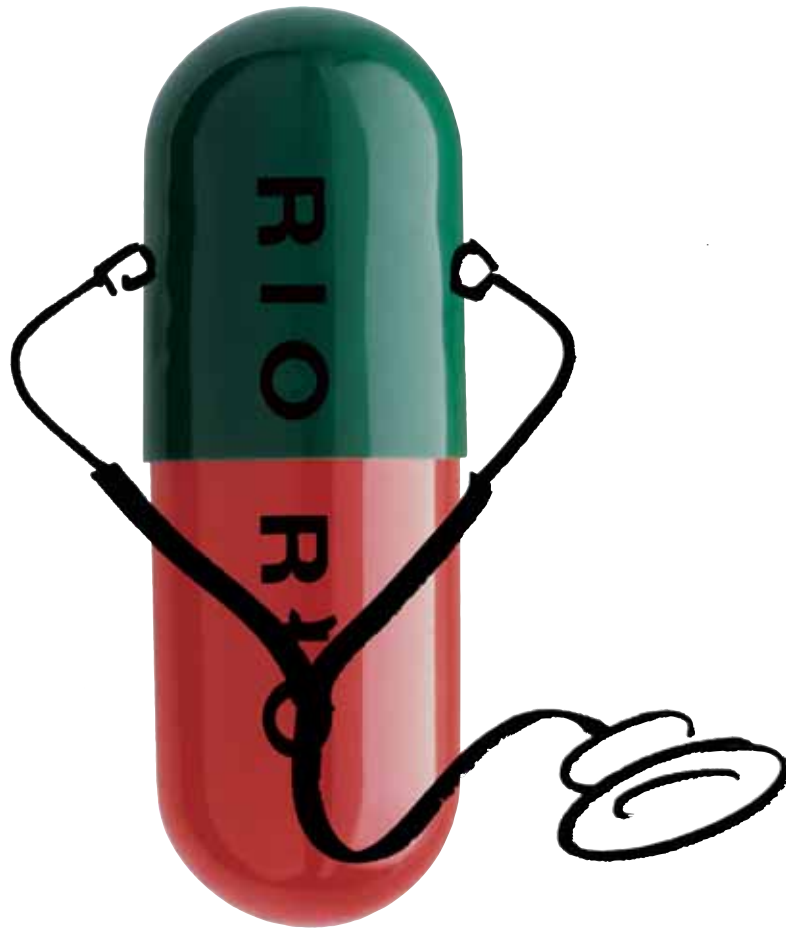
Reading Material

1. D'Angelo R and Dewan DM. Obesity Ch 49 pages 892-903 In: Chestnut DH. Obstetric Anesthesia: Principles and Practice. 3 rd Ed. Elsevier Mosby
2. Andeasen KR et al. Obesity and Pregnancy Review Article. Acta Obstetrica et Gynecologica Scandinavica 2004;83:11 1022-1029
3. Hood DD and Dewan DM. Anesthetic and Obstetric Outcome in Morbidly Obese Parturients. Anesthesiology 1993 7:1210-1218

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