

Magnesium Sulfate Fails to Relieve Cesarean Pain

BY JANE SALODOF MACNEIL
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SCOTTSDALE, ARIZ. — Perioperative use of magnesium sulfate during cesarean delivery did not relieve short- or long-term pain for women in a double-blind, randomized controlled trial of 120 women.

Neither high nor low doses produced any benefit in pain control or satisfaction compared with saline solution in the intent-to-treat analysis.

Other than the expected variation in serum concentrations of magnesium, the only significant differences were slightly greater blood loss and longer time to solid foods for the women given magnesium sulfate, study investigator Everett F. Magann, M.D., reported at the annual meeting of the Central Association of Obstetricians and Gynecologists.

"Given the absence of any apparent analgesic benefit and the apparent increase in blood loss, we do not believe that the perioperative administration is clinically useful," said Dr. Magann, a captain in the U.S. Naval Reserve who currently practices at Naval Medical Center Portsmouth (Va.).

The investigators wanted to test magnesium sulfate because it has been used successfully to control pain from cancer and some surgical procedures in other fields of medicine, according to Dr. Magann. He said they had found one abstract reporting that preeclamptic women undergoing cesarean deliveries had less pain than did matched controls.

"The use of magnesium is very familiar to obstetri-

cians," he said. "It is used in pregnancies complicated by preeclampsia and in pregnancies complicated by preterm labor to delay delivery until corticosteroids have been administered to accelerate fetal lung maturity and lessen neonatal morbidity."

Magnesium is believed to alter pain processing, because it acts as an antagonist to receptors in the spinal cord.

"There is experimental evidence that magnesium may modulate acute pain [and] reduce postsurgical pain intensity and/or the dosage of analgesics," Dr. Magann said.

He conducted the study at King Edward Memorial Hospital for Women, Perth, Western Australia, with colleagues from the hospital and the University of Western Australia.

From October 2002 to June 2004, they enrolled 131 women aged 18 years or older who were undergoing a planned cesarean delivery of a single infant, had no contraindication to magnesium sulfate, and consented to a combined spinal-epidural anesthetic.

Patients and health care providers were blinded to the randomization of the women. Eleven women withdrew consent or did not proceed to cesarean delivery. Although 15 women did not receive a full 24-hour infusion of magnesium sulfate and 9 did not adhere to analgesic protocol, these patients were included in the intent-to-treat analysis.

The high-dose group of 42 patients was given 50 mg/kg of magnesium sulfate an hour before surgery and 2 g/hour afterward.

A low-dose cohort of 38 women received a 25 mg/kg loading dose followed by 1 g/hour after surgery.

Forty women in a control group received a saline solution.

There were no significant differences between groups in baseline characteristics such as age and weight.

Although none of the women had serious complications requiring transfusions, Dr. Magann reported blood loss as 400 mL for the control group, 475 mL for the low-dose patients, and 500 mL in women at the higher dose.

Time to solid foods was 3 hours in the control group and 6 hours in the two cohorts on magnesium sulfate.

At 6 weeks, none of the women were using analgesic drugs. They also did not have any wound pain with movement or pressure.

Discussant Paul Ogburn, M.D., said the paper answered "fairly definitively no" to the question of whether magnesium sulfate would relieve cesarean pain.

Dr. Ogburn, director of maternal-fetal medicine at the State University of New York at Stony Brook, also suggested that the incidental findings of increased blood loss and delay until solid food is consumed may be important clinically. ■

There also was a significant difference in slightly greater blood loss associated with perioperative administration of magnesium sulfate.

Endometriosis, Wound Separation Don't Prolong C-Section

BY JANE SALODOF MACNEIL
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SCOTTSDALE, ARIZ. — A prospective observational study of 1,656 cesarean deliveries has produced a detailed portrait of factors leading to longer than usual operating times and the effects of long procedures on pregnancy outcomes.

Cesarean delivery is likely to be prolonged when a woman is older or overweight, according to data presented by investigator Everett F. Magann, M.D., at the annual meeting of the Central Association of Obstetricians and Gynecologists.

Dr. Magann reported that maternal age above 35 years and a body mass index of 30 kg/m² or greater were significant factors.

Dr. Magann suggested that obstetricians may want to consider requesting stronger backup when they perform a cesarean delivery on a woman who is older and overweight.

"Maybe call a partner in and get more experienced help," he said, noting that longer procedures had negative effects on pregnancy outcomes.

"The most significant is that blood loss was increased, so you want to do your operation in a timely manner," Dr. Magann of the Naval Medical Center in Portsmouth, Va., said in an interview.

He and his associates were surprised by two factors that turned out not to prolong

cesarean delivery. "Surprisingly, endometriosis and wound separation were unrelated to the operation time," they reported in a list of conclusions on the poster.

In the interview, Dr. Magann mentioned that the review also brought another surprise: "We didn't find [that] the longer you operate, the greater your risk of infection," he said, noting that increased risk of infection is often assumed in this situation.

Women with pre-existing hypertension or a low segment transverse scar from a previous cesarean operation were more likely to have longer procedures.

Other factors that contributed significantly to added time in the operating room were a uterus incision other than a transverse incision, having a first-year resident as the primary physician, and performance of a sterilization procedure during the operation.

Blood loss in excess of 1,000 mL was more than twice as likely (odds ratio 2.16) in operations lasting 30-60 minutes, compared with those lasting 30 minutes or less. The odds ratio rose to 6.93 in operations that lasted longer.

Patients whose cesarean delivery lasted longer than 60 minutes also were nearly three times more likely to have their umbilical artery pH level register below 7.1. In addition, their babies were nearly three times more likely to have Apgar scores below 7 at 5 minutes.

Cesarean delivery is likely to be prolonged when a woman is older or overweight, results of a large prospective observational study suggest.

Risk of respiratory distress syndrome also increased with longer operating time; the odds ratio became 2.43 at 30-60 minutes and 4.07 after 60 minutes.

Nearly three-quarters (1,207/1,656) of women in the study were African American. Another 19% (315/1,656) were white. The women, more than half of whom were nulliparous, were 24.8 years old on average.

The investigators reported that 693 women had a previous cesarean delivery. About a third of this group (232 women) had at least two prior cesarean deliveries.

Complications occurred in 728 pregnancies (44%). Preeclampsia was the most common, occurring in 337 women. It

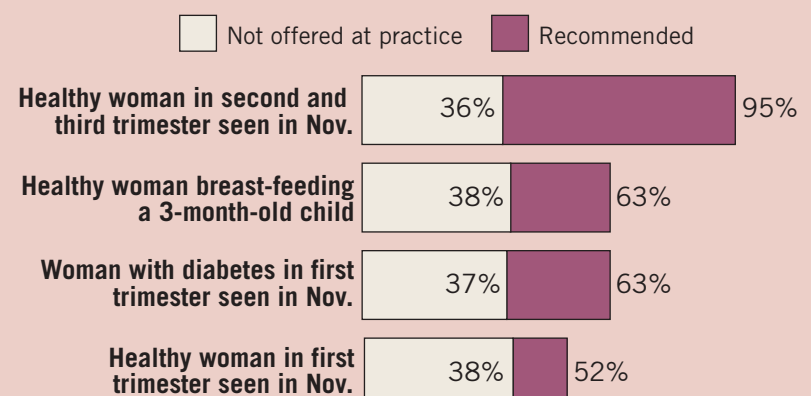
was followed by gestational diabetes in 134 women, preterm premature rupture of membranes (76), congenital abnormalities (53), and intrauterine growth restriction (28).

Forty minutes was the median operative time in the study, which divided the women into three cohorts for the analysis. Only 386 deliveries (23%) were completed in 30 minutes or less. Nearly two-thirds (1,070 deliveries) took 31-60 minutes. The remaining 200 deliveries lasted longer than 60 minutes.

The study showed that the only factors associated with shortened delivery time were maternal age less than 18 years and fetal distress. ■

DATA WATCH

How Ob.Gyns. Approach Influenza Vaccination for Pregnant and Breast-Feeding Patients



Note: Based on a 2004 national survey of more than 400 ob.gyns. who were current members of the American College of Obstetricians and Gynecologists.
Source: Centers for Disease Control and Prevention