

Start With US to Diagnose Ectopic Pregnancy

BY SHERRY BOSCHERT

SAN FRANCISCO — Combining an ultrasound exam and quantitative beta-hCG measurements may be the most efficient and effective way to diagnose an ectopic pregnancy, said Dr. Amy “Meg” Autry.

A decision-analysis study found that performing transvaginal ultrasound, followed by measuring beta-hCG when ultrasound results were nondiagnostic, identified all ectopic pregnancies in the fastest time (1.46 days) with the fewest interrupted intrauterine pregnancies (less than 1%). Some other diagnostic strategies were faster but less sensitive or interrupted more normal pregnancies (*Obstet. Gynecol.* 2001;97:464-70).

“In our hospital, in reality, we’re getting ultrasound and hCGs at the same time” for women with suspected ectopic pregnancy, Dr. Autry said at a conference on antepartum and intrapartum management sponsored by the University of California, San Francisco. Some ultrasounds will show evidence of intrauterine pregnancies even when the beta-hCG

results are below the “discriminatory zone”—the hCG level above which a normal intrauterine pregnancy can be visualized consistently.

Combined, the ultrasound and beta-hCG results are 97%-100% sensitive and 95%-99% specific in diagnosing ectopic pregnancy. “This is predicated on a reliable and consistent ultrasonographer—whether it’s an ob.gyn. or radiologist—and you have to know what your discriminatory zone is at your institution,” said Dr. Autry of the university. At her hospital, the discriminatory zone is 1,500-1,800 mIU/mL, using an endovaginal probe.

Even in patients with beta-hCG levels below the discriminatory zone, ultrasound can identify 33% of normal intrauterine pregnancies, 28% of spontaneous miscarriages, and 25% of ectopic pregnancies, a separate study found (*Obstet. Gynecol.* 1999;94:583-7).

In normal early pregnancies up to 41 days’ gestational age, beta-hCG levels double in 48 hours. “But once you’re at 6 weeks’ [gestation], you should be fol-

lowing by ultrasound,” Dr. Autry said, because beta-hCG levels increasingly become less accurate for identifying normal pregnancies. At 41-57 days’ gestation, the beta-hCG level will increase 33% in 48 hours in normal pregnancies. At 57-65 days’ gestation, beta-hCG level increases only 5% in 48 hours in normal pregnancies.

Previous data have shown that 64% of women with ectopic pregnancy up to 41 days’ gestation will have normal doubling of beta-hCG, emphasizing the additional value of ultrasound examination. In early pregnancy, a beta-hCG increase of less than 50% in 48 hours invariably indicates a nonviable pregnancy, but doesn’t tell you where the pregnancy is.

When ultrasound results are indeterminate, the presence of echogenic material (“I call it schmutz”) in the uterus in-

dicates a low likelihood of a normal intrauterine pregnancy, she added. Free fluid in the cul de sac suggests a moderate risk for ectopic pregnancy, a risk that increases with increased volume or echogenicity.

Other signs in indeterminate ultrasounds can be worrisome, she said. A thick endometrial stripe with a beta-hCG level below 1,000 mIU/mL predicts an increased risk for ectopic preg-

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nancy. An empty uterus increases the risk for ectopic pregnancy fivefold. An empty uterus plus a beta-hCG rate of change of less than 66% suggests a 25-fold increased risk for ectopic pregnancy.

Other predictors of ectopic pregnancy include a history of ectopic pregnancy or miscarriage, older age, and bleeding. Dr. Autry said she has no conflicts of interest related to these topics. ■



Don't Jump to Glyburide Treatment for Gestational Diabetes, Expert Warns

BY SHERRY BOSCHERT

SAN FRANCISCO — A growing body of evidence suggests that the oral agent glyburide may not be as safe as injected insulin to treat gestational diabetes, and that perceived barriers to women using insulin are unsubstantiated.

“The standard of care was insulin. Then everybody changed to glyburide based on an underpowered study” of 404 women with gestational diabetes who were randomized to glyburide or insulin therapy, Dr. Aaron B. Caughey said at a conference on antepartum and intrapartum management sponsored by the University of California, San Francisco.

The study reported similar glycemic control and neonatal outcomes between groups (*N. Engl. J. Med.* 2000;343:1134-8). “A lot of people that use glyburide base it on this one prospective, randomized trial” that was too small and showed some worrisome trends, said Dr. Caughey, medical director of the Diabetes and Pregnancy Program at the university.

A closer look at the results reveals multiple trends toward worse neonatal outcomes with glyburide, although none are statistically significant, he said. In the glyburide group, 7% of babies had birth weights above 4,000 grams, compared with 4% of the insulin group. Lung complications were reported in 8% of the glyburide group and in 6% on insulin. Hypoglycemia occurred in 9% on glyburide and 6% on placebo. Hyperbilirubinemia rates were 6% on glyburide and 4% on placebo.

More recently, a retrospective cohort study of 584 women with gestational diabetes in the Kaiser Permanente system found significantly worse rates of preeclampsia (12%) and phototherapy for hyperbilirubinemia (9%) in women treated with glyburide, compared with those given insulin (6% and 5%, respectively). That study also found a nonsignificant trend toward a higher rate of birth injury with glyburide (3%) than with insulin (1%), all of which was “concerning,” he said (*Am. J. Obstet. Gynecol.* 2005;193:118-24).

Analyses of statewide data from the California Diabetes and Pregnancy Program (known as Sweet Success) in 2007 by Dr. Caughey’s associates at the university also found some significantly worse outcomes in women given oral agents compared with insulin for gestational diabetes. They found a 35% higher risk for birth weights above 4,000 g, a 40% higher risk for admission to the neonatal intensive care unit, and a 52% higher risk for preterm delivery before 34 weeks’ gestation in women taking oral agents after adjusting for the effects of maternal age, ethnicity, parity, education, gestational age at delivery or at diagnosis of gestational diabetes, body mass index, and gestational weight gain.

Among women diagnosed with gestational diabetes early in pregnancy—at less than 24 weeks’ gestation—the increased risk with oral agents was even more pronounced, including more than a threefold higher risk for intrauterine fetal demise compared with the insulin group.

Some clinicians say they prefer to treat gestational diabetes with glyburide because they believe that patients with little formal education cannot understand how to use insulin, or that patients whose primary language is not English will have difficulty, noted Dr. Caughey, who said he had no conflicts of interest related to this topic. When they stratified the Sweet Success data to profile women who had less than 9 years of education or whose primary language was Spanish, those on oral agents still had significantly worse outcomes.

“In my practice, we have one person a year [who will] not be able to use insulin and [who has] to use an oral agent. It’s pretty rare.” At UCSF, gestational diabetes management begins with nutritional counseling and a prescription to take a short walk after each meal. If borderline or mild glucose elevations persist, they offer the patient insulin and will consider the alternative of oral metformin, but only in patients who are unlikely to have pre-existing diabetes mellitus, who have been diagnosed with gestational diabetes at 26-32 weeks’ gestation, and who have been counseled about an increased preterm delivery risk associated with metformin. ■

Epidural Epinephrine Reduces Labor Pain

BY HEIDI SPLETE

WASHINGTON — Adding epinephrine to epidural bupivacaine and fentanyl significantly reduced the breakthrough pain of women in labor, based on supplemental pain relief data from a randomized study of 107 women with uncomplicated singleton pregnancies.

Previous studies have shown that epinephrine enhances the analgesic effects of local anesthesia during labor, but the effect of epinephrine added during the epidural infusion has not been well studied, noted Dr. Philip E. Hess of Harvard Medical School, Boston.

In this study, Dr. Hess and his colleagues enrolled women in active labor who were at least 7 cm dilated. The average age of the women was 32 years. All the patients received a standard epidural with bupivacaine and fentanyl, and then were randomized to receive or not to receive 1.66 mcg/mL epinephrine (1:600,000) as part of the epidural solution. The results were presented in a poster at the annual meeting of the Society for Obstetric Anesthesia and Perinatology.

“The primary outcome was the need for the treatment of breakthrough pain,” Dr. Hess said during an oral review of posters. Overall, the mean number of boluses of supplemental pain medication was significantly lower in the epinephrine group compared with the control group (1.16 vs. 0.74), and the bolus rate was significantly lower in the epinephrine group compared with the controls.

But there were no significant differences in the duration of labor or in the occurrence of side effects (including hypotension, nausea, and vomiting) between the two groups. Pain scores were recorded every 15 minutes during labor using the visual analog scale. The results suggest that adding epidural epinephrine at the beginning of labor significantly reduced the need for extra anesthesia to manage breakthrough pain, noted Dr. Hess, who said he had no conflicts to disclose. ■