Gentamicin in Utero Does Not Cause Hearing Loss

BY SHERRY BOSCHERT
San Francisco Bureau

Monterey, Calif. — Neonates who were exposed to gentamicin in utero when their mothers were treated for pyelonephritis showed no increased risk of failing screening tests for hearing loss in a controlled study of 284 pregnancies, Dr. Tony Wen said.

The ongoing retrospective chart review analyzed cases of pregnant women who received gentamicin and ampicillin for pyelonephritis and delivered at 32 weeks' gestational age or later with the next gentamicin-free pregnancy matched by gestational age. All neonates underwent otoacoustic emissions testing after birth. Failure or incomplete results brought a second round of otoacoustic emissions testing before discharge. A second failure led to referral for more definitive hearing tests.

Among women with pyelonephritis, 92% received gentamicin, which crosses the placenta at term. Overall, 8% of newborns exposed to gentamicin in utero and 10% of controls failed otoacoustic emissions testing—opposite the trend that investigators expected to see because of concerns about gentamicin's potential effects on hearing, he said at the annual meeting of the Infectious Diseases Society for Obstetrics and Gynecology.

In the general population, 5%-8% of newborns fail otoacoustic emissions tests. The study was inspired by animal studies that found hearing loss in rats exposed in utero to gentamicin.

Gentamicin is an aminoglycoside with broad-spectrum coverage that is commonly used to treat women with pyelonephritis and chorioamnionitis, according to Dr. Wen of the University of Texas, Galveston, and his associates.

A subset analysis by trimester found that early-trimester exposure to gentamicin did not increase risk for otoacoustic emissions testing failure.

Neonates who were small for gestational age showed no increased risk for failing otoacoustic emissions testing from gentamicin exposure.

There was a statistically nonsignificant trend for longer courses of gentamicin to increase the risk for otoacoustic emissions test failure. After 4 days or less of gentamicin treatment, 2% of neonates failed the tests, compared with 12% of neonates whose mothers got gentamicin for 5 days or longer.

"If you have a patient who requires prolonged treatment, once you get the sensitivity testing results, you might consider changing antibiotics" if the mother is on gentamicin, Dr. Wen said.

Women treated with gentamicin and ampicillin received gentamicin in a loading dose of 120 mg followed by 80 mg gentamicin every 8 hours. Patients got 6-20 doses of gentamicin in the study.

The case and control groups did not differ in maternal or gestational age, gravidity, Apgar scores, birth weights, or mode of delivery, among other factors. ■

Major Adverse Events Hit 25% In Peripartum Cardiomyopathy

BY SHERRY BOSCHERT
San Francisco Bureau

Seattle — One-fourth of 182 women with peripartum cardiomyopathy developed major adverse events, half of which were death or heart transplantation, Dr. Sorel Goland reported in a poster presentation at the annual meeting of the Heart Failure Society of America.

Women with peripartum cardiomyopathy who had very low ejection fractions of 25% or who were not white were most likely to develop major adverse events, 50% of which occurred before the diagnosis of peripartum cardiomyopathy was made, said Dr. Goland of the department of cardiology at Cedars-Sinai Medical Center, Los Angeles, and associates.

A delay in diagnosing peripartum cardiomyopathy of a week or longer increased the risk for death or heart transplant fivefold.

"Diagnosis of peripartum cardiomyopathy is often delayed and preceded by major adverse events. Early diagnosis and aggressive therapy, including treatment of heart failure, anticoagulation, and sudden death prevention, should improve the outcome of patients," the investigators stated.

The clinical profile of peripartum cardiomyopathy and the risk factors for complications have not been well characterized previously because of the low incidence of this disorder. Peripartum cardiomyopathy occurs during pregnancy or the postpartum period because of unknown causes and can be associated with severe complications.

The retrospective review of data on 182 patients found that 25% died, underwent heart transplantation, developed cardiopulmonary arrest, required temporary circulatory support by an intra-aortic balloon pump or a left ventricular assist device, developed pulmonary edema or thromboembolic complications, or had a pacemaker or implantable cardioverter defibrillator implanted. Of the 46 major adverse events, 36 (78%) occurred within 6 months of the diagnosis of peripartum cardiomyopathy.

Of the 182 patients, 24 (13%) died or underwent heart transplantation; 16 of the 24 deaths or transplants happened within 6 months of diagnosis.

Patients with ejection fractions of 25% or less had quadruple the risk for major adverse events in general and for death or heart transplant, compared with patients who had higher ejection fractions. Nonwhite patients were three times more likely to develop major complications and four times more likely to die or need a heart transplant, compared with white patients. ■

Risk Factors for Serious Complications in Peripartum Cardiomyopathy

Patient characteristics (n = 182 patients)	No major adverse events (n = 136)	Major adverse events (n = 46)
Age	30 years	27 years
Twin pregnancy	19%	4%
Baseline EF	31%	24%
Baseline EF of 25% or less	31%	63%
EF at 6 months	47%	29%
EF at last follow-up	48%	31%
Baseline LVDD	57 mm	61 mm
LVDD at 6 months	52 mm	68 mm
Achieved left ventricular recovery	45%	18%

Notes: EF = ejection fraction; LVDD = left ventricular diastolic diameter.
Source: Dr. Goland

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Lupus Pregnancy Outcomes Depend on Multiple Factors

BY DIANA MAHONEY
New England Bureau

Boston — Successful pregnancies in women with systemic lupus erythematosus depend on a combination of factors, including disease activity at the time of conception, maternal renal function, the presence of lupus-related autoantibodies, and medication use, according to Dr. Lisa Sammaritano of Cornell University, Ithaca, N.Y.

In terms of disease activity, "it has been shown time and again that patients with inactive disease for 6 or more months prior to conception have a substantially reduced risk of experiencing a disease flare during pregnancy than women with active disease," Dr. Sammaritano reported at a meeting on rheumatology sponsored by Harvard Medical School. "[Physicians] should have this in mind during prepregnancy consultations and advise patients to wait for periods of stable disease before trying to conceive."

Maternal renal function should also be evaluated prior to conception, said Dr. Sammaritano. In women with renal insufficiency, pregnancy can accelerate a decline in renal function and worsen hypertension and proteinuria, thus increasing the risk of maternal and fetal complications, such as preeclampsia, intrauterine growth restriction, and intrauterine death.

Additionally, "it's essential to assess renal function before pregnancy in women with renal insufficiency in order to better differentiate worsening lupus-related renal disease from superimposed preeclampsia during pregnancy," Dr. Sammaritano said. Kidney problems during pregnancy are more likely to be related to systemic lupus erythematosus (SLE) renal disease than to preeclampsia if the patient exhibits clinical symptoms of active SLE, has an elevated anti–double-stranded DNA antibody, or has detectable red blood cell casts in the urine, she said.

The presence and levels of certain lupus-related autoantibodies can also affect pregnancy outcome, Dr. Sammaritano noted. The antiphospholipid antibodies as well as lupus anticoagulant and medium to high anticardiolipin antibodies have been associated with recurrent pregnancy losses, poor fetal growth, preeclampsia, and stillbirths in women with lupus. Identifying the antibodies ahead of time "is critical, because studies have shown that treatment with medication, such as aspirin or heparin, during pregnancy can improve the viability of the fetus," she added.

Two other lupus-related autoantibodies—anti-SS-A and anti-SS-B—can have an effect on the babies born to mothers with lupus. The presence of one or both of these IgG autoantibodies in the mother increases the risk of neonatal lupus erythematosus (NLE), which can cause rash or changes in blood counts or liver function and, in severe cases, can affect the conduction system of the heart, Dr. Sammaritano said.

For pregnant women who test positive for anti-SS-A or anti-SS-B, current management guidelines recommend weekly fetal echocardiographic monitoring between gestational weeks 16 and 26 and biweekly monitoring between weeks 27 and 34 to look for congenital heart block, she said.

In terms of medication during pregnancy for women with lupus, corticosteroids should be used for active disease only.

"If a patient is on a dose of steroid, in general we will continue at a low dose during the course of the pregnancy. However, we do not recommend prophylactic steroids in patients without active disease in an effort to prevent a flare," Dr. Sammaritano said. ■