

# Seven Steps Will Help Manage Eclamptic Seizure

BY DAMIAN McNAMARA  
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MIAMI BEACH — Eclamptic seizures are a rare but serious complication best treated according to a preestablished protocol, Dr. Baha Sibai said at an ob.gyn. conference sponsored by the University of Miami.

“Don’t look for fetal heart rate first or think of the seizure. Don’t stop to give meds to stop the seizure, and cover the fetal heart rate monitor,” he said. Instead, take care of the mother first, and “treat the patient according to

her vital signs,” said Dr. Sibai, professor of obstetrics and gynecology at the University of Cincinnati.

He suggested the following seven steps for managing eclamptic seizure:

1. Prevent hypoxia by supporting maternal respiratory and cardiovascular functions.
2. Prevent maternal injury and aspiration.
3. Avoid the temptation to try to arrest the first seizure.
4. Prevent convulsions from recurring. This is accomplished chiefly with intravenous magne-

sium sulfate, administered slowly and never as an intravenous push, Dr. Sibai said. He suggested 6 g administered IV over 20 minutes, with 2 g IV per hour for maintenance. “When you give the loading dose, they feel terrible,” Dr. Sibai said. “I know this feels bad. I gave it to myself when I developed these protocols.” Talk to the patient to prevent magnesium toxicity. “If they are disoriented, they are approaching toxic levels,” Dr. Sibai said. “If a patient on magnesium shows abnormal behavior for any reason, for heaven’s sake, stop it. No one

has ever died from a lack of magnesium.”

5. Control severe hypertension to prevent cerebrovascular injury. “Most people don’t know how to give antihypertension meds,” he said. “Call someone if you don’t know, but not someone more ignorant than you. An IV bolus of 5 mg hydralazine, with another 10 mg IV bolus given 20-30 minutes later, can help control severe hypertension, he added. “Notice I haven’t mentioned the fetal heart rate or baby yet,” Dr. Sibai said.

6. Manage complications such as

disseminated intravascular coagulation and pulmonary edema.

7. Begin induction/delivery within 24 hours. “The worst thing you can do is everyone panics and rushes the woman to a C-section,” Dr. Sibai said. “Assess neurologic status. This is extremely important—do not take her for a C-section if unconscious.” Ask the patient to state her name, where she is, and the time of year.

Taking care of the mother first is important because “the baby will not do well if the mother is not doing well,” Dr. Sibai concluded. ■

## Peak Pattern in Infants’ MRSA Infections May Reflect Sources

BY MICHELE G. SULLIVAN  
Mid-Atlantic Bureau

PHILADELPHIA — Infections caused by methicillin-resistant *Staphylococcus aureus* occur in a bimodal pattern in the first year of life, with peaks in the first 5 months and again shortly before the first birthday. The peaks reflect two separate reservoirs of methicillin-resistant *S. aureus* (MRSA)—the first possibly from a maternal source and the latter from the community, Dr. Ana Krishnan and Dr. Karen Carpenter said in a poster presentation at a meeting of the Eastern Society for Pediatric Research.

The physicians conducted a 10-year retrospective review of MRSA among children less than age 12 months treated in a large Northern Virginia birthing center. The review identified 85 MRSA-positive cultures, which occurred with increasing frequency as the years progressed. Only two cases were identified in 1997, the first year of the study. Cases remained infrequent, between 1 and 8 per year, until 2004, when they doubled to 15. Infections have continued to rise each year since then, with 25 cases recorded by the end of 2006.

Most infections (64%) occurred in infants less than 5 months old, with 25% occurring in children less than 1 month old, said Dr. Krishnan, a pediatric resident at Inova Fairfax Hospital for Children, Falls Church, Va.

“In the first 30-60 days of life, there are more [hospital-acquired] than community-acquired MRSA infections,” she said in an interview. “This correlates with the greater number of babies in the neonatal intensive care unit. About 50% of the babies who had the infections in the first 60 days were in the [neonatal] ICU.”

The ratio of hospital-acquired (HA) and community-acquired (CA) infections began to change after the patients reached

about 2 months of age, she said. “At this point, we found a shift toward more infections being acquired in the community. But this difference disappears toward the end of the first year.” In months 11 and 12, there are about equal numbers of community- and hospital-acquired infections.

She also noted that a second peak of infection occurred just before the first birthday, with the highest incidence (71%) during the fall and winter months. Additionally, most patients in this age group (73%) presented with a concurrent upper respiratory infection. “This apparent association needs further investigation,” Dr. Krishnan said at the meeting, which was cosponsored by Children’s Hospital of Philadelphia.

CA-MRSA also was significantly more likely than HA-MRSA to cause pustulosis (28% vs. 13%) and abscesses requiring drainage (33% vs. 10%). Invasive infections were similar between the groups (22% and 26%), but among invasive infections, bacteremia was more common in HA-MRSA (18% vs. 7%) and nonbacteremic invasive infections more common in CA-MRSA (17% vs. 8%).

The two types of MRSA infections display distinct antibiotic susceptibilities, Dr. Krishnan said. Most CA-MRSA infections were susceptible to clindamycin (76%), with none of the tested cultures displaying inducible resistance. Only 37% of HA-MRSA cultures were sensitive to clindamycin, however, and 25% of those tested did display inducible resistance.

The researchers plan additional studies to explore the possible relationship between early-infancy infections and a maternal reservoir of MRSA, Dr. Krishnan said. “We plan a prospective study looking at mother-infant couplets. We want to culture mothers before delivery, identify those with MRSA, and follow the pairs for a year to assess MRSA colonization and disease.” ■



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DR. KRISHNAN

## Intrauterine Environment May Be the Source of Adult Obesity

BY TIMOTHY F. KIRN  
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LOS ANGELES — Obesity, like cardiovascular disease risk, can originate in the womb, a phenomenon that could have important implications in managing the current obesity epidemic, Dr. Thomas R. Moore said at a meeting of the Obstetrical and Gynecological Assembly of Southern California.

Much evidence now indicates that infants born to mothers with diabetes are likely to become overweight children and adults. They are also more likely to develop gestational diabetes and possibly diabetes as adults.

However, the evidence also seems to suggest that infants born underweight may face a similar risk of obesity and are more likely to experience cardiovascular disease, said Dr. Moore, the chairman of the department of reproductive medicine at the University of California, San Diego.

With regard to the association between a diabetic mother and later obesity in the child, Dr. Moore cited a study of the Pima Indians of Arizona, who have been followed closely in a study since 1965 and among whom there is a high rate of obesity and diabetes.

In that study, the investigators looked at siblings in families with a mother who was diabetic. They compared siblings born before the mother was diagnosed as diabetic with siblings born after her diagnosis.

In 19 families in which one sibling had diabetes and the other did not, 15 of the diabetic children were born after their mother’s diagnosis, and only 4 were born before the mother’s diagnosis (Diabetes 2000;49:2208-11).

There was no difference in the number of siblings with diabetes in those families born before or after a father’s diabetes diagnosis.

The siblings who were exposed to intrauterine diabetes also were a mean 2.6 kg/m<sup>2</sup> heavier than were their nonexposed siblings. ■

In another study linking heaviness and diabetes in the child to that in the mother, Norwegian investigators looked at almost 140,000 women who had given birth.

They found that the rate of gestational diabetes among the women was 31/1,000 in those whose own mothers had diabetes when they were born, compared with a rate of 4/1,000 in those whose own mothers did not have diabetes (BMJ 2000;321:546-47).

Dr. Moore said that in his own practice, he is careful to measure and record body mass index, not just weight, and to help patients who want to lose weight before conception.

Moreover, when he manages maternal diabetes in pregnancy, he is mindful that it can have critical implications for the life of the infant.

“I actually believe I’m making a difference in the adult health of the fetus, who I am helping to treat through the mother by optimizing glucose control,” he said.

In reference to the risks facing underweight newborns, Dr. Moore said that most of the data come from epidemiologic studies that show those infants are more likely to develop high insulin levels, hypertension, diabetes, stroke, and heart disease.

He said that the theory explaining this phenomenon, the “thrifty phenotype,” asserts that when a fetus is growth or nutrient restricted, it shunts nutrients to the most essential organs.

One of the mechanisms the fetus body uses to prevent nutrients from going to less essential systems, such as the musculature, is by making those systems insulin resistant. This insulin resistance persists after birth and predisposes the individual to the conditions associated with metabolic syndrome.

The theory calls into question the common practice in neonatal nurseries of trying to get as many calories as possible into underweight infants in an effort to get them to gain weight quickly, said Dr. Moore. ■