

# Congenital LCMV Preventable if Patients Informed

BY DOUG BRUNK  
San Diego Bureau

TUCSON, ARIZ. — Although only 49 cases of lymphocytic choriomeningitis virus have been reported in the medical literature worldwide, Dr. Marilyn Baird Mets has a hunch that the prevalence could be much higher.

Since 1997, she has seen seven children with the condition present to Children's Memorial Hospital, Chicago, where she is head of ophthalmology.

Subsequently, three other clinicians have called her with reports of positive cases: one from the western suburbs of Chicago, one from Los Angeles, and one from Fort Collins, Colo.

"This virus is out there," Dr. Mets said at the annual meeting of the Teratology Society. "Obstetricians should be telling their patients not to work around rats in medical labs during their pregnancy [and] not to get a hamster for their 4-year-old if they're going to have other children. It's a preventable disease, but people need to know about it."

Discovered in 1933 and classified in the 1960s as a prototype for the arena virus, lymphocytic choriomeningitis virus (LCMV) is harbored in mice and transferred vertically by uterine infection. "There is documented infection to humans from wild mice, lab mice, rats, and hamsters," said Dr. Mets, also professor of ophthalmol-



ogy and surgery at Northwestern University, Chicago. "Transmission is thought to be airborne or contamination of food by infected mouse urine. There has also been experimental transmission demonstrated by ticks, fleas, mosquitos, and bedbugs."

About one-third of adults who acquire LCMV are asymptomatic. Of the remaining two-thirds, about half have central nervous system disease. Illness occurs in a biphasic pattern. "First there's an acute febrile illness with myalgias and headache," she said. "Later on, meningeal signs may develop, and rarely encephalitis, myocarditis, parotitis, orchitis, and pneumonia. Very rarely, fatal systemic disease is reported."

It's the causative agent in about 10% of aseptic meningitis cases.

LCMV was first described as a fetal pathogen in Great Britain in 1955. The first case of congenital LCMV in the United States was reported in 1993. The baby was born with a birth weight of 2,898 grams. During pregnancy the mother lived in a well-maintained inner-city apartment. At 5 months' gestation, she had a febrile illness that lasted a week. The child was born with hydrocephalus and microphthalmos of the right eye. The right eye had leukocoria, a cloudy vitreous, and exudative retinitis.

A review of 26 infants with LCMV published in 1997 revealed that 88% had chorioretinopathy, 45% had hy-



An optical scan shows the eye of a 22-month-old with congenital LCMV who was referred for visual delay.

drocephalus, and 13% had microcephaly. Diagnosis is made by IgG indirect fluorescent antibody, which is commercially available. "Or you can get an IgG ELISA at the [Centers for Disease Control and Prevention]," Dr. Mets said. "Complement fixation testing lacks the sensitivity" of the other two tests.

The differential diagnosis includes toxoplasmosis, rubella, cytomegalovirus, herpes simplex virus, enteroviruses, syphilis, parvovirus B19, and West Nile virus. ■

## Discuss Glaucoma Management Before Pregnancy When Possible

BY KATE JOHNSON  
Montreal Bureau

Preexisting glaucoma behaves unpredictably during pregnancy, according to findings from a small retrospective study.

The results underscore the need for close monitoring and physician-patient communication, reported Dr. Stacey C. Brauner and colleagues at the Massachusetts Eye and Ear Infirmary at Harvard Medical School in Boston.

Although medication is often necessary to control intraocular pressure, pregnant women may be reluctant to take it because of the potential teratogenic effects.

"This reinforces the need for good communication between physician and patient to minimize the risk to the fetus while preserving vision in the patient," the authors wrote (*Arch. Ophthalmol.* 2006;124:1089-94).

Whenever possible, physicians should address glaucoma management options in all women of childbearing age before they become pregnant. "With proper planning, surgical treatments such as laser trabeculoplasty can be offered in anticipation of decreasing or stopping medication use during pregnancy," Dr. Brauner said.

The retrospective case series of 28 eyes in 15 pregnant women with preexisting glaucoma found that while the condition remained stable in most women, 36% of eyes demonstrated either an increase in intraocular pressure (IOP) or a progression of visual field loss that required an increase in medication.

Most glaucoma medications such as  $\beta$ -blockers, carbonic anhydrase inhibitors (topical and systemic), prostaglandin analogues, cholinergic agents, anticholinesterases, and apraclonidine

hydrochloride are classified by the Food and Drug Administration as pregnancy category C, noted the authors.

"This designation indicates that studies in animals have shown adverse effects on the fetus and there are no controlled studies in women, or that studies in women and animals are unavailable," the investigators wrote. Thus, they advise that medication should be given "only if the potential benefit to the pregnant woman justifies the potential risk to the fetus," and should be "prescribed in collaboration with obstetricians to ensure the safety of the mother and the fetus."

Of the 28 eyes studied, IOP remained stable in 16 (57%), with no change in the visual fields. "Many of these eyes were maintained on fewer IOP-lowering medications during pregnancy compared with before pregnancy."

In another 5 (18%) of the 28 eyes IOP increased but with no progression in visual field loss. However, in another five eyes IOP remained stable or increased, and there was also a progression in visual field loss. (Data were inconclusive in the remaining two eyes).

Although 13 of the 15 women required medication to control their IOP during pregnancy, there was a general trend toward medication noncompliance once they became pregnant, according to the authors. Two women discontinued all medication, resulting in an increase in IOP. "There were no adverse effects of medication use during pregnancy observed in the patients or their offspring," the authors reported.

They advise that ophthalmologists work closely with obstetricians when selecting IOP-lowering medications during pregnancy. "In our experience, obstetricians are most comfortable with the use of  $\beta$ -blockers," they said. ■

## Summer Viruses May Play Role in Low Birth Weight

BY SHERRY BOSCHERT  
San Francisco Bureau

MONTEREY, CALIF. — July and August are the peak months for delivering babies weighing less than 1,500 g, but the summer months are not associated with preterm birth, according to a retrospective review from the University of Southern California's Women and Children's Hospital.

The study of 4,108 singleton live births in the 3 years from 2002 through 2004 found no seasonality to preterm deliveries, defined as births before 38 weeks' gestational age. The increase in low-birth-weight babies in summer may correlate with seasonal "summer virus" infections including enteroviruses, adenoviruses, and others, Dr. Ozlem Equils and her associates reported in a poster presentation at the annual meeting of the Infectious Diseases Society for Obstetrics and Gynecology.

In 2002, approximately 13% of babies born in August were low birth weight. About 7% were low birth weight in July 2003, and 6% in July 2004, said Dr. Equils of Cedars-Sinai Medical Center, Los Angeles. Those proportions were higher than in other months of the same years.

Bacterial and viral infections have been associated with preterm birth in other epidemiologic studies, and animal studies have shown an association between infection with

enterovirus and preterm birth.

"We know that enterovirus has caused nursing outbreaks—the mother and the baby get sick. We think that it may play a role with these small babies," Dr. Equils suggested in an interview at the poster.

Obstetricians may want to follow the viral outbreaks in their communities and emphasize infection prevention with patients, she added. If enterovirus is going around, for example, diligent hand washing and perhaps limiting intercourse in the later part of pregnancy may be advisable.

The investigators hope to study placenta samples to see if viruses are present and associated with seasonality and low birth weight. If further research supports these very preliminary associations, it may be possible to identify the presence of viruses from maternal cervical secretions and offer treatment, potentially reducing low-birth-weight deliveries, she speculated.

Previous studies of seasonality and preterm delivery come mainly from developing countries where factors such as droughts and starvation confound the data. It's also difficult to extrapolate observations on seasonality and preterm birth from developed countries in the 1960s through 1980s because of changing environmental conditions and other factors, such as more women entering the labor force, she said. ■