

Debate Stirs Over Diagnosis, Low Apgar Scores

BY SHERRY BOSCHERT
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CABO SAN LUCAS, MEXICO — Some obstetricians see pediatricians and neonatologists as adversaries when it comes to reducing the risk of a lawsuit after delivering a baby with low Apgar scores.

The alleged problem: Most pediatricians, neonatologists, and pediatric neurologists don't follow a 2003 monograph produced by the American College of Obstetricians and Gynecologists (ACOG) and the American Academy of Pediatrics (AAP) that sets criteria for declaring that a newborn has hypoxic ischemic encephalopathy (HIE), which is an essential component of cerebral palsy, said O. Richard Depp, M.D., at a conference on obstetrics, gynecology, perinatal medicine, neonatology, and the law.

Until recently, pediatricians and neonatologists who saw a newborn who was not doing well and had depressed Apgar scores simply labeled the problem as HIE. "That is no longer appropriate," said Dr. Depp, professor of ob.gyn. at Thomas Jefferson University and Drexel University, Philadelphia.

No one should presume a diagnosis of HIE until other causes have been excluded and criteria for HIE have been met, he said. (See sidebar.) Until then, the only appropriate label—and one less likely to spark litigation—is neonatal encephalopathy, which may be due to a number of causes, many of which occur before labor and delivery, according to the monograph.

"I think there is a real need for education among our colleagues in other specialties, because I don't think they've really read this," Dr. Depp said during the conference, which was sponsored by Boston University and the Center for Human Genetics.

It's time for chairs or division chiefs 'to sit down and talk about how they will address this problem in a prospective manner.'

Not so, countered Avroy A. Fanaroff, M.B., in a commentary after Dr. Depp's talk. "Our pediatricians are trained to be very cautious about their use of terminology and to apply the ACOG criteria before they put down HIE," he said. Dr. Fanaroff is professor and chairman of pediatrics and professor of reproductive biology at Case Western Reserve University, Cleveland.

"You practice in one of the pediatric capitals of the world," responded Dr. Depp. He asked how many obstetricians in the audience of 150-200 people felt comfortably sure that the pediatricians in their hospitals were familiar with the monograph. Less than a handful raised their hands.

An obstetrician from Atlanta stepped up to the microphone and said, "We're fighting for our lives from the plaintiffs' attorneys, who say, 'Well, can you dispute the fact that this pediatric neurologist says this is HIE?' [The neurologist] wasn't there! He doesn't even know what he's saying!"

Dr. Depp suggested that it's time for chairs or division chiefs "to sit down and talk about how they will address this problem in a prospective manner." At Jefferson University, he sat down with the chairpersons of pediatrics and anesthesia to negotiate an agreement on the proper use of terms such as HIE and neonatal encephalopathy.

Only recently have physicians attempted to distinguish between neonatal encephalopathy and hypoxic ischemic encephalopathy, he noted.

A 1999 international consensus statement, titled, "A template for defining a causal relation between acute intrapartum events and cerebral palsy" provided the first clear guidance and was endorsed by 16 medical organizations, including ACOG (BMJ 1999;319:1054-9).

ACOG and the AAP followed with the monograph,

"Defining the pathogenesis and pathophysiology of neonatal encephalopathy and cerebral palsy" (Obstet. Gynecol. 2003;102:628-36).

Dr. Fanaroff agreed that differentiating hypoxic ischemic encephalopathy from neonatal encephalopathy is a complex task. "There are a whole lot of things that need to be sorted out. There are some that are acute events, others that are chronic, others that are acute and chronic, and others that are due to genetics or infection," Dr. Fanaroff said.

"I think we're all treading on very thin ice, and walking on eggshells" when labeling problems in a newborn's chart.

HIE Criteria Essentials

Four prerequisites must be met in proposing that hypoxic ischemic encephalopathy caused moderate to severe neonatal encephalopathy, resulting in cerebral palsy:

1. Fetal umbilical cord arterial blood obtained at delivery with evidence of metabolic acidosis (pH less than 7 and base deficit of 12 mmol/L or more).
2. Early onset of moderate or severe neonatal encephalopathy in infants born at 34 weeks' gestation or later.
3. Spastic quadriplegic or dyskinetic cerebral palsy.
4. Exclusion of other identifiable causes such as coagulation disorders, infectious conditions, trauma, or genetic disorders.

The monograph also discusses other criteria that together suggest an intrapartum insult occurred.

Source: *Defining the pathogenesis and pathophysiology of neonatal encephalopathy and cerebral palsy* (Obstet. Gynecol. 2003;102:628-36).

Avoid Mistakes Treating Abdominal Trauma in Pregnancy

BY SHERRY BOSCHERT
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CABO SAN LUCAS, MEXICO — Abdominal trauma during pregnancy endangers the woman and her fetus, but avoiding some common clinical errors in managing such patients can reduce these risks, according to John A. Marx, M.D.

Abdominal trauma during pregnancy is "a huge concern and underrated," said Dr. Marx, chairman of emergency medicine at Carolinas Medical Center, Charlotte, N.C.

Abdominal trauma occurs in 1%-12% of all pregnancies and leads to hospitalization in 0.4% of such cases, he said at a conference on obstetrics, gynecology, perinatal medicine, neonatology, and the law.

Trauma that causes a pelvic fracture leads to maternal death in 9% of cases and fetal death in 38% of cases. Placental abruption—seen in 2%-4% of women who suffer minor abdominal trauma and half of women with life-threatening abdominal trauma—results in fetal death 50%-70% of the time.

Be prepared to recognize shock early and treat it aggressively in pregnant women with abdominal trauma.

Don't rely too much on a nontender abdomen as a sign that everything is okay after abdominal trauma during pregnancy.

Dr. Marx outlined other mistakes to avoid:

► **Failure to teach proper seat belt use.** Motor vehicle accidents cause 70% of all cases of abdominal trauma in pregnancy. Compared with a belted passenger, an unbelted pregnant woman in a car crash has double the risk of vaginal bleeding and quadruple the risk of fetal death.

Advise women to place their lap belt below the uterus and across the hips and place the shoulder belt between the breasts and to the side of the abdomen. Placing the seatbelt improperly across the abdomen increases force on the uterus three- to fourfold, compared with proper seat belt use.

Air bags do protect pregnant passengers, he added. "There's a great deal of misunderstanding about this," Dr. Marx said.

► **Failure to order needed radiologic studies.** This failure is frequently due to concern about radiating the fetus and represents "a huge error in trauma management," he said. A dose of 5 rad or less is considered an acceptable cumulative fetal exposure. X-rays that deliver less than half a rad each include films of the anterior-posterior pelvis, lumbosacral spine, thoracic spine, and periapical or lateral views.



A CT scan of the abdomen delivers 2.6 rads to the fetus, and a CT of the abdomen and pelvis delivers 3-9 rads, although helical CT decreases radiation exposure by 14%-30%. "You can still do these studies, but you can't do a bunch of them," he said.

► **Failure to obtain coagulation studies.** The risk of disseminated intravascular coagulation increases during pregnancy.

► **Overreliance on ultrasound to detect placental abruption.** Cardiotocographic monitoring is much more sensitive, though less specific, than ultrasound in diagnosing placental abruption. All women with pregnancies of 24 weeks or greater who sustain blunt trauma to the abdomen should undergo cardiotocographic monitoring, which consists of continuous Doppler monitoring of fetal cardiac activity and electronic recording of uterine activity.

Placental abruption with a 50% tear can quadruple the risk of stillbirth, and a 75% tear increases the risk of stillbirth 39-fold.

► **Failure to monitor the fetus for 4-24 hours.** Four hours is sufficient if the

trauma carries low risk, the mother is asymptomatic for placental abruption, and cardiotocographic monitoring results are normal. If the trauma affected a major bodily mechanism, the mother is symptomatic, or monitoring results are abnormal within the first 4 hours, monitor for at least 24 hours.

► **Failure to avoid supine hypotensive syndrome.** "This is another oft-missed and easy-to-treat condition," he said. Tilting the woman's prone body up and to the left by 15-30 degrees frees the inferior vena cava from pressure from the uterus, which could otherwise cause a significant drop in systolic blood pressure.

► **Failure to consider domestic violence.** The woman's abdomen is the prime site of injury arising from domestic violence during pregnancy. If domestic violence happens once during pregnancy, there's a 60% chance it will happen again. Only 3% of pregnant women who seek care for domestic violence injuries reveal the true cause to physicians.

► **Failure to perform a perimortem cesarean section promptly.** When the woman is dead or moribund but the fetus is viable, performing a C-section within 5 minutes leads to excellent fetal outcomes. Only about 5% of fetuses survive if delivery is delayed at least 15 minutes, and most will have poor neurologic outcomes, Dr. Marx said.