A Surprising Postnatal Diagnosis

To the Editor:

I read with interest the clinical case series by Shur et al[1] about counseling expectant parents on the results from prenatal screening tests for Down syndrome. Parents can now choose from a myriad of prenatal screening options. However, each test simply provides a statistical chance that a fetus has Down syndrome. The results are reported as ratios, such as a 1 in 985 or a 1 in 270 chance, that the mother's fetus has Down syndrome. For a definitive diagnosis, a mother must choose a more invasive test such as chorionic villus sampling or amniocentesis.

In their examples of how to counsel couples who had prenatal screenings for Down syndrome, the authors suggest clinicians begin by saying, "Your screening test came back positive" or "Your screening test came back negative." This is exactly what mothers of children with Down syndrome have asked clinicians not to do.[2] In a recent survey, mothers who had prenatal diagnoses of Down syndrome requested, among many recommendations, that physicians share statistical risk assessments, rather than prelabeling their screening results as "positive" or "negative." The medical community has historically assigned its own arbitrary cutoff levels to screening tests, but mothers have stated that they should be the ones to assess their own comfort level on whether or not to proceed with more invasive testing. A result of 1:270 might be deemed "risky" by a physician when it might fall entirely within the satisfactory range for a mother.

Shur et al poignantly conclude that "our sensitivity to a person's individual concerns and attitudes, in combination with the provision of accurate information, will enable each patient to make the best decision for herself and her family." Mothers have now told us that this means we, the physicians and genetic counselors, should provide nondirective support in interpreting and understanding statistical ratios. However, in the end, we need to step aside and let mothers determine which screening results are "positive" for their own circumstances.

Brian G. Skotko, MD, MPP
Children's Hospital Boston & Boston Medical Center
Boston, Massachusetts

REFERENCES

1. Shur N, Marion R, Gross SJ. A surprising postnatal diagnosis. Obstet Gynecol 2006;108:189–95.
2. Skotko BG. Prenatally diagnosed Down syndrome: mothers who continued their pregnancies evaluate their health care providers. Am J Obstet Gynecol 2005;192:670–7.

In Reply:

We agree wholeheartedly with Dr. Skotko's point that women "should be the ones to assess their own comfort level on whether or not to proceed with more invasive testing." The time will likely come when the medical community enables each woman, regardless of age or medical history, to make an informed and personal decision regarding screening and diagnostic testing. The current reality is that the American College of Obstetricians and Gynecologists (ACOG) and the American College of Medical Genetics recommend offering invasive testing only to women considered high risk, including those with advanced maternal age and positive second-trimester screens.[1,2] However, we are in agreement with Dr. Skotko's concerns. When to offer invasive testing is currently arbitrary in nature. Hopefully, respect for women's desire to determine their own positive or negative individualized thresholds will be taken into account in future deliberations regarding practice and policy guidelines.

Natasha Shur, MD
Robert Marion, MD
Susan J. Gross, MD
Montefiore Medical Center
Bronx, New York

REFERENCES

1. American College of Obstetricians and Gynecologists. Prenatal diagnosis of fetal chromosomal abnormalities. ACOG Practice Bulletin 27. Washington, DC: ACOG; 2001.
2. Driscoll DA, for the Professional Practice and Guidelines Committee, American College of Medical Genetics Policy Statement. Second trimester maternal serum screening for fetal open neural tube defects and aneuploidy. Genet Med 2004;6:540–1.

Decision-to-Incision Times and Maternal and Infant Outcomes

To the Editor:

The article by Bloom et al[1] focuses on decision-to-incision times and maternal and infant outcomes. As stated by the authors, "the 30-minute response time has become a medical–legal benchmark for adequacy of obstetric care when cesarean delivery is indicated."

Indeed, as early as 1969, Faro and Windle[2] showed that periods of anoxia exceeding 10 minutes induce irreversible cerebral injury in monkeys. In 2002, Bujold and Gauthier[3] described three infants born 15, 16, and 23 minutes after the beginning of fetal bradycardia, all of whom developed ischemic encephalopathy. Furthermore, in a recent study (Dupuis O. Is neonatal neurological damage in the delivery room avoidable? Experience of 33 level I and II maternity units of a French Perinatal network. Eur J Obstet Gynecol, in press) relating the experiences of 33 level I and II maternity units of a French perinatal network, we found three uterine ruptures leading to three fetal deaths in 1 year. In those three cases, we found an elapsed time of 34, 49, and 80 minutes between cardiotocogram abnormalities and delivery. Finally, Bloom[1] reports a case of neonatal death resulting from ischemic encephalopathy on a neonate born 33 minutes after the decision. Unfortunately, the authors do not provide details about the seven neonates who died in the "30 minutes or less group." Therefore, one does not know whether the decision-to-incision time was more or less than 15 minutes.

Concerning obstetrics, we do believe that "statistics" does not mean "realistic." Uterine rupture does require an immediate delivery. This explains why, since 2003, for "very urgent" cases we have implemented a 15-minute decision-to-delivery protocol.

Olivier Dupuis, MD, PhD, CNGOF
Hôpital Croix-Rousse,
Lyon France

REFERENCES

1. Bloom SL, Leveno KJ, Spong CY, Gilbert S, Hauth JC, Landon MB, et al. Decision-to-incision times and maternal and infant outcomes. Obstet Gynecol 2006;108:6–11.
2. Faro MD, Windle WF. Transneuronal degeneration in brains of monkeys asphyxiated at birth. Exp Neurol 1969; 24:38–53.
3. Bujold E, Gauthier RJ. Neonatal morbidity associated with uterine rupture: what are the risk factors ? Am J Obstet Gynecol 2002;186:311–4.

To the Editor:

Bloom et al[1] confirm the results of other studies that time from decision to incision in emergency cesarean deliveries is often longer than 30 minutes, and the duration correlates poorly with maternal and neonatal outcomes. To an outside observer, such as a plaintiff's attorney, these findings might suggest that there is poor quality in our systems that prevents us from responding to emergencies in a timely fashion, but, thankfully, it doesn't matter. Instead, the problem is how we define emergency cesarean delivery. There is no consistent definition in the literature. It may be like pornography—difficult to define, but easy to recognize. The experience of many obstetricians is that it is on a continuum and can never truly be defined, especially when "nonreassuring fetal heart rate patterns" is the dominant diagnosis. Our response to abnormal tracings is graded according to our interpretation of the severity of the distress and many other clinical variables.

A delivery service, attempting to evaluate its ability to respond appropriately to emergencies in less than 30 minutes, might concentrate on cesarean delivery performed for placental abruptions, cord prolapses, previas with hemorrhage, and suspected uterine rupture. In Bloom's study, only 1.8% of the patients with these diagnoses were performed in greater than 30 minutes, as opposed to 37.5% for the indication of a nonreassuring fetal heart rate tracing.[1]

Charles W. Schauberger, MD, MS
Gunderson Lutheran Medical Center
La Crosse, Wisconsin

REFERENCE

1. Bloom SL, Leveno KJ, Spong CY, Gilbert S, Hauth JC, Landon MB, et al. Decision-to-incision times and maternal and infant outcomes. Obstet Gynecol 2006;108:6–11.

In Reply:

We appreciate the interest that our manuscript has generated. Dr. Schauberger has correctly emphasized that it is difficult for clinicians to define "emergency cesarean delivery." We too struggled with this difficulty. In an attempt to distinguish the common and notoriously nonspecific nonreassuring fetal heart rate pattern leading to cesarean delivery from the more obvious emergencies, we separately analyzed our data for those women undergoing emergency procedures for placental abruption, prolapsed umbilical cord, previa with hemorrhage, and uterine rupture. In this subgroup, and as reported in our paper, virtually all cesarean deliveries began within 30 minutes, unlike those for nonreassuring fetal heart rate patterns.

Dr. Dupuis points out that the capability to perform cesareans within 15 minutes might be a better benchmark. Indeed, Leung and colleagues[1] from the University of Southern California concluded more than a decade ago that, when managing uterine rupture in women with prior cesareans, delivery needed to be effected within 18 minutes to avoid serious neonatal morbidity. Unfortunately, our results might suggest that even this very rapid response might not be enough. Six of the seven neonatal deaths we reported were in infants delivered within 15 minutes of the decision to operate. All of these considerations should perhaps underscore the frailty of our very best efforts to optimize infant outcome in the face of obstetric emergencies.

Steven L. Bloom, MD
Kenneth J. Leveno, MD
Department of Obstetrics and Gynecology, University of Texas Southwestern Medical Center
Dallas, Texas

Sharon Gilbert, MS
George Washington University Biostatistics Center,
Rockville, Maryland

Catherine Y. Spong, MD
National Institute of Child Health and Human Development,
Bethesda, Maryland
for the National Institute of Child Health and Human Development Maternal–Fetal Medicine Units Network

REFERENCE

1. Leung AS, Leung EK, Paul RH. Uterine rupture after previous cesarean delivery: maternal and fetal consequences. Am J Obstet Gynecol 1993;169:945–50.