

There is NO diagnosis of twins

Kenneth J. Moise Jr, MD; Anthony Johnson, DO

At a recent medical conference in Bogotá, Columbia, 1 of the guest speakers via satellite was Kypros Nicolaides of King's College. Professor Nicolaides was invited to provide an overview of the progress in fetal therapy over the last 3 decades. He methodically traced the history of the treatment of diaphragm hernia from open fetal surgery to fetoscopic placement of a tracheal balloon. He covered other therapies that had been less well-studied, such as shunt placement for bladder outlet obstruction and pleural effusions. As his lecture seemed to be drawing to close, he had not yet addressed what many caregivers believe to be the latest breakthrough in fetal intervention: fetoscopic-guided laser therapy for the treatment of severe twin-twin transfusion syndrome (TTTS). But then he paused and made the following statements: "There is NO diagnosis of twins. There are only monochorionic twins or dichorionic twins. This diagnosis should be written in capital red letters across the top of the patient's chart."

What an insightful thought! It was not that many years ago that we were taught in residency that the diagnosis of twins called for an ultrasound to be performed every 4 weeks to look for fetal growth restriction. In fact, the current American College of Obstetricians and Gynecologists technical bulletin on multiple gestation fails to address the significance of establishing chorionicity or the frequency of ultrasound examinations. Once again, our European colleagues have led the way in the developing field of fetal medicine. In a prospective study by Sueters et al,¹ all cases of TTTS were detected at an early stage if ultrasounds that were performed every 2 weeks were combined with patient education of symptoms of polyhydramnios. In December 2008, the Royal College of Obstetricians and Gynecologists published the Green-top Guideline #51 entitled *Management of Monochorionic Twin Pregnancy*.² The guideline calls for the early establishment of chorionicity by first-trimester ultrasound in multiple gestations. In monochorionic twins, "fortnightly" (every 2 weeks) ultrasonography is recommended beginning at 16 weeks of gestation.

Why is a change in recommendations for ultrasound surveillance in multiple gestations needed? The incidence of twinning continues to be on the rise in the United States because of

advancing maternal age at conception and the increased use of assisted reproductive technologies. Monochorionic twins comprise up to one-third of all twin gestations. In addition, in vitro fertilization is associated with a 9-fold increase in monochorionic gestations.³ Up to 25% of monochorionic pregnancies are complicated by intrauterine growth restriction, TTTS, or intrauterine fetal death that is unrelated to either of the previous 2 entities.⁴ Perinatal death is increased 7-fold as compared with dichorionic twins.⁵ In addition, the incidence of congenital anomalies in monochorionic twinning is increased by >2-fold over dichorionic twins.⁶ These statistics would suggest that monochorionic twins represent a "high risk" situation and that diagnosing this entity would make sense.

Many pregnancies in the United States now undergo first-trimester ultrasonography for dating and confirmation of fetal viability. Prospective studies have indicated that, with proper training, chorionicity can be determined with a 96% accuracy by simply visualizing the insertion of the intervening membrane into the placenta to look for the "lambda" (dichorionic diagnosis) or "T" sign (monochorionic diagnosis).⁷ Other ultrasound measurements that can be obtained in the first trimester may be utilized to predict the outcome in the monochorionic twins once they are diagnosed. In 1 prospective series of 512 monochorionic twins, a difference in the nuchal translucency of >20% predicted >50% of the cases that subsequently experienced TTTS.⁸ Another prospective study of 202 monochorionic twin pregnancies failed to find that a difference in nuchal translucency was predictive of poor outcome. However, in the same study, a difference in the crown-rump lengths of 12 mm predicted a 50% chance of the development of TTTS, intrauterine growth restriction, or fetal death.⁴

TTTS accounts for most perinatal deaths in monochorionic twins that occur at <24 weeks of gestation.⁹ Both a randomized clinical trial and a recent Cochrane review have indicated that laser ablation of placental anastomoses is the preferred treatment for advanced stages of TTTS.^{10,11} Amnioreduction should be reserved for those rare circumstances in which acute maternal symptoms do not allow for timely referral to a laser center. Physicians should be aware that amnioreduction may preclude their patient from a successful laser treatment because of bleeding into the recipient's sac that would obscure proper visualization of the placental vessels at the time of fetoscopy. In addition, a chorion-amnion separation or inadvertent septostomy may occur that would make the introduction of the fetoscope virtually impossible at the time of an attempted laser therapy.¹² After 26 weeks of gestation, amnioreduction is an acceptable therapy in an effort to prolong gestation because most US centers will not undertake laser therapy at this late gestational age. Despite initial data that septostomy may be superior to amnioreduction in averting the need for serial procedures, it too should be reserved for use at >26 weeks of ges-

From the Department of Obstetrics and Gynecology, Division of Maternal-Fetal Medicine, Baylor College of Medicine, and the Texas Children's Fetal Center, Houston, TX.

Reprints: Kenneth J. Moise Jr, MD, Baylor College of Medicine, Division of Maternal-Fetal Medicine, Department of Obstetrics and Gynecology, 1709 Dryden St., Suite 1100, Houston, TX 77030.

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tation.¹³ Septostomy that is performed before this time will allow the donor sac to fill with amniotic fluid from its cotwin, thereby preventing the successful visualization of the vascular equator at the time of fetoscopy. Again, laser therapy may not be possible in this situation.

Evidence-based data point to the growing need for an updated statement from the American College of Obstetricians and Gynecologists to clarify the role of early ultrasound in the identification of chorionicity. Monochorionic twins should be labeled “high risk” and a limited ultrasound should be performed every 2 weeks, starting a 16 weeks of gestation.² Deferring an anatomy scan until 20 weeks of gestation once “twins” have been diagnosed in the first trimester is no longer state-of-the-art in modern obstetrics. Frequent limited ultrasounds to assess for discrepancies in amniotic fluid volume will result in the early detection of complications in monochorionic twins. Serial ultrasounds every 4 weeks should also be undertaken to assess fetal growth.

The diagnosis of “twins” is no longer acceptable. ■

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