

Early Viability Clues Help Ease Couples' Anxiety

BY BETSY BATES

Positive ultrasound markers are highly predictive of a successful pregnancy outcome very early in pregnancy, providing reassurance to patients who have suffered from infertility or recurrent pregnancy losses, researchers reported in two studies.

Fetal cardiac activity, gestational sac diameter, and yolk sac diameter on post-

conception days 33-36 were all significantly associated with a viable pregnancy beyond 20 weeks' gestation, reported Dr. Soyoung Bae of the University of Toledo (Ohio) Medical Center.

Dr. Bae and Dr. Joseph V. Karnitis of the Fertility Center of Northwest Ohio, also in Toledo, retrospectively evaluated ultrasound results of 1,092 early pregnancies, tracking findings present in those that resulted in a successful preg-

nancy at 20 weeks' gestation and beyond.

"The majority of these pregnancies were conceived using infertility treatments, and the date of conception was clearly known," said Dr. Bae during an award-winning paper presentation at the annual meeting of the American College of Obstetricians and Gynecologists.

The presence of cardiac activity during early pregnancy was associated with a 90.4% ongoing pregnancy rate at 20

weeks. Gestational sac diameter of 12 mm and above was a similarly reassuring finding, associated with an ongoing pregnancy rate of 91.9% at 20 weeks. A small gestational sac, less than 8 mm in diameter, was conversely associated with a miscarriage rate of 86.1%.

A yolk sac diameter between 2 mm and 6 mm was most predictive of a successful pregnancy, associated with an ongoing pregnancy rate of 89.2% at 20 weeks. Yolk sacs less than 2 mm in diameter or larger than 6 mm in diameter were associated with poor ongoing success rates of 20.5% and 20%.

An embryo's crown-rump length and fetal heart rate greater than 100 beats per minute predicted viability at 5-6 weeks post conception in a separate study presented at the annual meeting of the Pa-

Positive ultrasound markers such as fetal cardiac activity on postconception days 33-36 were significantly associated with a viable pregnancy at 20 weeks' gestation and beyond.

cific Coast Reproductive Society in Indian Wells, Calif.

Despite positive results on home pregnancy tests, anxiety runs high in couples who have struggled to become pregnant, said Dr. Charles C. Coddington, professor of obstetrics and gynecology at the Mayo Clinic, Rochester, Minn.

During ultrasounds at 5-6 weeks to establish the intrauterine location of the pregnancy, many patients want an estimate of the chances the pregnancy will progress, he said.

While conventional wisdom traditionally held that a fetal heart rate greater than 100 beats per minute was reassuring, there were few data to back that up. In cases where the heart rate was less than 100, "we didn't know whether to be reassuring or concerned," he explained in an interview.

Dr. Coddington and his associates conducted a retrospective analysis of infertility patients who had undergone early first-trimester ultrasounds with duplex color Doppler imaging.

Viability was 100% in 38 pregnancies in which fetal heart rates exceeded 100 beats per minute and embryos were determined to be growing appropriately at 5-6 weeks based on crown-rump length on ultrasound, explained Dr. Coddington. Among pregnancies with a fetal heart rate less than 100 beats per minute at the first scan, just 5 of 11 progressed.

Fetal heart rate and crown-rump length were strongly correlated, with an *R* value coefficient of 0.736 and a *P* value of less than .0001.

When the 5- to 6-week ultrasound shows a reassuring crown-rump length and a fetal heart rate over 100, "we can give very positive reinforcement to couples, which is a wonderful thing you can do for them," Dr. Coddington said. ■

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