Lone Umbilical Artery Indicates Need for Fetal ECG

BY SHARON WORCESTER
Southeast Bureau

MIAMI BEACH — A prenatal sonographic finding of single umbilical artery is an indication for fetal echocardiography, Dr. Lami Yeo said at the annual meeting of the Society for Maternal-Fetal Medicine.

In a case series of 430 fetuses with this finding who were identified retrospectively from a database of more than 42,600 patients, 13% had sonographic structural cardiac abnormalities, said Dr. Yeo of Robert Wood Johnson Medical School, Piscataway, N.J.

About 67% of the 430 patients had isolated single umbilical artery, and the remaining 20% had only noncardiac defects, she noted.

Of the structural cardiac abnormalities, 26% were complex cardiac defects, 26% were septal defects only, 19% were left or right hypoplastic heart, 15% were conotruncal abnormalities, 6% were defects of the atrioventricular canal, and 9% were classified as "other" defects. (Percentages add to more than 100% due to rounding.) Nearly 75% of the defects were significant defects, Dr. Yeo said.

Furthermore, 80% of those with structural cardiac defects also had other anomalies.

The patients were all diagnosed with single umbilical artery from 1994 to 2005 using color Doppler imaging around the fetal bladder. Previous studies have suggested a connection between single umbilical artery and cardiac defects, but the studies were small, and the rates varied from 2% to 23%, Dr. Yeo noted.

This series—the largest reported from a single institution—confirms the significant incidence of structural cardiac abnormalities and therefore the need for fetal echocardiography in those with a prenatal diagnosis of single umbilical artery. ■

Thrombophilia Not at Fault in Fetal Losses

TORONTO — Recurrent pregnancy loss was not associated with inherited maternal thrombophilias in a prospective study, adding weight to the evidence against screening for such disorders in patients presenting with a history of first-trimester miscarriage.

"It's probably more important to rule out other possible etiological factors," said lead investigator Dr. Sony Sierra in an interview.

The study, which she presented at the annual meeting of the Society for Gynecologic Investigation, genotyped 915 Hutterite women for inherited thrombophilia polymorphisms including Factor V Leiden (FVL) Arg506Gln, the MTHFR Ala222Val, and the prothrombin G20210A variants. A total of 141 women were identified with inherited thrombophilias and were prospectively followed through 342 pregnancies.

The rate of fetal loss, defined as loss at or before 20 weeks of gestation, was 16% in the cohort, which is comparable to the rate found in the general population, reported Dr. Sierra, of the department of obstetrics and gynecology at the University of British Columbia in Vancouver.

"We also found that the majority of miscarriages occurred at less than 12 weeks—and since there has been evidence to suggest that thrombophilias could be associated with later fetal loss beyond 20 weeks, our findings just lend further support to the data that for early miscarriage there is no significant association," she said.

Genotype analysis was performed on a subset of 72 live offspring and compared with maternal and paternal genotyping. The analysis revealed an expected transmission rate of the MTHFR Val allele to offspring; however, there were significantly fewer children born with the FVL allele (28) than expected (37). (There were no parental carriers of the prothrombin 20210A allele.)

"The significant deficit of children who inherit the FVL Gln allele from either heterozygous parent suggests that there may be preferential early loss of fetuses with this polymorphism," said Dr. Sierra. "This unexpected result suggests selection against inherited thrombophilic variants during embryogenesis."

—Kate Johnson