



Gestational diabetes linked to language impairment in childhood

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NEW YORK (Reuters Health) - Children of mothers with gestational diabetes are prone to persistent delays in expressive language, investigators in Canada report in the November issue of Pediatrics.

Dr. Ginette Dionne and colleagues at Laval University in Quebec City conducted a longitudinal, case-control study of 221 offspring of diabetic mothers and 2612 control subjects, all of whom had at least one measure of language documented between ages 18 months to 7 years.

The outcome measures were McArthur Communicative Development Inventory expressive and receptive vocabulary and grammar at 18 months and 30 months, the Peabody Picture Vocabulary Test receptive vocabulary at 48 months and expressive and receptive vocabulary at 60 months, and Early Development Instrument teacher-assessed communication at 72 months and 84 months," the report indicates.

Results showed that infants of diabetic mothers performed 0.27 to 0.41 standard deviations below controls on all but one expressive language measure. They were also twice as likely to be classified as having a language impairment, defined as falling below the 15th percentile on at least two language measures (26% vs 13%, adjusted odds ratio 2.2).

Because many of the subjects were twins (116 cases and 882 controls), the investigators could examine the relative contribution of genes, shared environment, and non-shared environment to the observed language deficits. Genetic modeling indicated that genes do moderate the effect of gestational diabetes on expressive language.

Maternal education also modulated the effects on language impairment, with children of mothers with no high school diploma more adversely affected by gestational diabetes.

Dr. Dionne's team speculates that "the more stimulating environments provided by educated mothers may diminish the initial impact of gestational diabetes on language outcomes," while at the same time warning that "the moderating effect of maternal education may simply reflect the moderating effect of genes."

They conclude that studies are needed to see if stimulation "through parental support or surrogate maternal care" might offset the effects of gestational diabetes on language development.

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