

Drinking While Pregnant Risks Child's IQ

Mix pregnancy with moderate drinking and you risk undermining your unborn child's intelligence, say scientists at the University of Washington in Seattle. For the first time, the investigators have established a firm link between prenatal exposure to moderate amounts of alcohol and reduced scores on a standard IQ test at age 4.

In a sample of 421 mothers and their children, self-reported alcohol consumption of at least three drinks a day during pregnancy was associated with childhood IQ scores almost 5 points below the average score for the entire group. The connection held even when a wide vari-

ety of other factors that may also predict childhood IQ were statistically held constant. The findings represent an estimated tripling of the risk of a "subnormal" IQ score of 85 or less for an average child in the sample, the researchers report in the January *DEVELOPMENTAL PSYCHOLOGY*.

Nevertheless, cautions psychologist and study director Ann P. Streissguth, the data do not provide a cutoff point for "safe" drinking during pregnancy. "The results don't mean it's okay to consume 2½ drinks a day and your child will be all right," she says. "We've shown that moderate drinking is a general risk factor for a

lower IQ at age 4. The best advice is not to drink at all during pregnancy."

This counsel, also voiced several years ago by U.S. Surgeon General C. Everett Koop, apparently goes unheeded by many women. Surveys conducted in the past by the National Institute on Drug Abuse have indicated about 75 percent of pregnant women drink alcohol at least twice a month. Fewer than 4 percent, however, drink enough to produce the severe complications of fetal alcohol syndrome, which include mental retardation.

The pregnant women in Streissguth's sample reported alcohol use ranging from none to heavy, with an average of just over one drink per day. The concentration of alcohol in one glass of wine, one bottle of beer and one shot of hard liquor is approximately the same, Streissguth notes. The mothers were primarily white, married and middle-class. They were recruited from prenatal care programs in 1974 and 1975.

Four years later, the researchers administered a standard intelligence test to the mothers' offspring. The test consists of performance IQ (putting together simple block designs and other "perceptual motor" tasks) and verbal IQ (spoken responses to questions about vocabulary and passages read aloud).

The researchers accounted for 30 other variables also potentially related to childhood IQ, such as parents' education, race, prenatal nutrition, mothers' use of illicit drugs, children's medical problems, preschool attendance and children's sex and birth order.

Previous reports on the same sample bolster the argument that the IQ decrements at 4 years of age relate biologically to prenatal alcohol exposure, Streissguth says. The researchers found moderate alcohol consumption during pregnancy associated with poor heart and lung function at birth, as well as a number of symptoms of central nervous system problems, including tremors, irritability, decreased sucking pressure and, at 4 years, problems in concentration and attention.

The new study is also notable for an association that does not turn up, Streissguth notes. While some investigators have linked smoking during pregnancy to childhood deficits on various tests of thinking ability, the Washington study found no relation between smoking and children's IQs. Earlier studies usually failed to examine prenatal alcohol use, Streissguth explains. But smokers' babies are still at higher risk for miscarriage, stillbirth, prematurity and low birthweight.

— B. Bower

Groups seek human gene-transfer delay

The long and winding road toward genetic engineering in humans took a new twist this week, as leaders from disability groups—citing fears of "a new form of eugenics"—sought to delay the first U.S. gene-transfer experiments in humans.

On Jan. 19, National Institutes of Health (NIH) Director James B. Wyngaarden gave final approval for the injection of gene-altered cells into humans. The procedure, designed to improve an experimental cancer treatment (SN: 10/8/88, p.228), is not in itself a therapy. But researchers regard it as a forerunner of experiments aimed at curing individuals with inherited defects by altering their genetic makeup.

Under the direction of Steven A. Rosenberg of the National Cancer Institute, researchers in the past two weeks have begun removing samples of cancer-fighting cells from terminally ill cancer patients. Rosenberg and NIH co-workers W. French Anderson and R. Michael Blaese plan to genetically alter those cells and reinject them into the patients within six weeks, he says.

But a lawsuit filed in the U.S. District Court for the District of Columbia this week by a Washington, D.C.-based public-interest group seeks to prevent those experiments, pending a more complete review of the procedure's social and ethical implications. Foundation on Economic Trends President Jeremy Rifkin announced his suit during a meeting of the NIH's Recombinant DNA Advisory Committee, which advises the NIH on matters relating to genetic engineering. Rifkin attended the meeting with leaders of advocacy groups for the disabled—including Evan Kamp, commissioner of the U.S. Equal Employment Opportunity Commission, and Martin

Gerry, who was assistant secretary for civil rights at the Department of Health, Education and Welfare under Gerald Ford and a member of the Reagan administration's Disability Advisory Council.

"We have a long history of the scientific establishment trying to separate out the research and development of a technology from its social application," Rifkin told the committee. "We want a complete halt on future gene-therapy experiments until an advisory board on eugenics is established that will fully assess each proposed experiment."

Eugenics refers to the manipulation of genes through restricted breeding or other techniques to improve a race or species. A major eugenics movement within the U.S. scientific community around the turn of the century resulted in laws that restricted immigration, marriage and procreation among individuals deemed genetically unfit.

Although the courts had overturned most such legislation by the 1970s, some civil- and disability-rights leaders express concern that new genetic technologies may spur a eugenics revival.

"I think there's an [incorrect] assumption among scientists and medical people that everyone agrees on what constitutes a benefit to an individual," says Deborah Kaplan of the Berkeley, Calif.-based World Institute on Disability. "I'm concerned that as technology and as different cures become available there will be immense pressure on myself and my peers to undergo different forms of treatment. I'm concerned about social pressure, family pressure, pressure from the medical community and real pressure from the insurance industry" to submit to genetic treatments.

— R. Weiss