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Peril Is Seen for Babies Whose Mothers Ate Fish With PCB's

By DANIEL GOLEMAN

The infants of women who ate Lake Michigan fish contaminated with PCB's show subtle, "nondisease" signs of problems in their behavioral development such as sluggish emotional responses, a new study indicates.

The study, published in the current issue of the journal Developmental Psychology, is the first to find deficits in the children of women exposed to low levels of PCB's. The women who were studied ate on average of two to three meals of contaminated fish per month for 10 years.

PCB's, polychlorinated biphenyls, are chemicals that were widely used in electrical equipment and other industrial applications before they were banned in 1976. PCB's are man-made molecules that accumulate in fatty tissue and are believed to cause cancer. They do not decompose under bacterial or other biological action.

Predatory fish such as lake trout and salmon can have especially high concentrations of PCB's. Because of the cancer risk, pregnant women, nursing mothers, women of child-bearing age and young children have been advised in the past to limit their consumption of fish species likely to have high accumulations of PCB's.

"I would advise women of child-bearing age not to eat fatty fish like salmon and lake trout at all," said Joseph L. Jacobson, one of the researchers, "or else to eat off the fattier part or broil the fish, which removes most of the PCB's."

The researchers are cautious about the implications of their findings, since they do not yet have evidence that the problems will persist.

Moreover, although they went to great lengths to be sure that the effects they observed were due to PCB's, they note that other factors, including other toxic chemicals, could be the cause.

The effects of much higher levels of PCB's had already been observed in studies of pregnant women in Japan and Taiwan who had accidentally consumed rice oil contaminated by PCB's and other chemicals. Their infants showed a distinctive set of physical characteristics, and most were mentally retarded, sluggish and clumsy in their movements, and were generally apathetic.

212 Infants Studied

The current study suggests, however, that even exposures to low levels of PCB's can have detrimental effects.

The researchers interviewed 5,052 mothers the day after their babies were delivered in four hospitals in western Michigan. They compared infants of 71 women who reported eating no contaminated fish with those of 208 women who reported regularly eating fish from Lake Michigan, including species known to have PCB contamination.

The infants of the women who had eaten fish had a lower birth weight and smaller head circumference than the infants of women who had not.

On a standard test of infant development, the infants of women who had eaten fish showed a number of abnormal responses including jerky and unbalanced movements, sluggishness in responses, and weak reflexes.

The study was done by Joseph L. Jacobson and Sandra W. Jacobson of Wayne State University in Detroit, Gwen G. Fein of the University of Maryland, Pamela M. Schwartz of the University of Michigan and Jeffrey K. Dowler of Wayne State University.

Low levels of exposure to toxins, the researchers note, can produce different symptoms in different children, depending on genetic predispositions or other factors.

The patterns found in the infants whose mothers were exposed to PCB's would be considered worrisome by clinicians. Although the patterns would not necessarily mean that an infant would continue to have problems as it matured, a clinician would ordinarily monitor the child's development for signs of further problems.

The investigators are planning to retest the infants in the study when they reach age 4 to see if developmental problems emerge. They note that problems in infancy are often transitory and their long-term implications for development are uncertain.

Infants of the women who had the highest exposure in PCB's had the most worrisome ratings, according to the study; their behavior tended to be the most sluggish and depressed.

Because these deficits are subtle, the investigators say, they are often unnoticed in infants, and developmental problems that emerge later are unlikely to be traced back to the mother's exposure to a toxic substance.

Contamination Is Declining

CHICAGO, July 21 — Studies since 1970 have found a steady decline in the level of PCB's in fish from Lake Michigan, said Thomas J. Murphy, a DePaul University chemist and member of the Lake Michigan Federation, a private nonprofit group.

From 1972 to 1978 Coho salmon contained on average more than 10 parts of PCB's per million, and lake trout contained from 15 to 20, Mr. Murphy said. Data gathered in 1981 show lake trout containing 6 parts per million, he said, with a similar decline in salmon.

These levels, however, are still above the Federal Food and Drug Administration's limit of two parts per million of PCB's in fish.

Wisconsin, Illinois, Indiana and Michigan, the states bordering Lake Michigan, issue warnings on fishing licenses against eating contaminated fish.

In New York State, the Hudson River contains PCB's, and Lakes Ontario and Erie have other chemical contaminants. The New York City Health Department recommends that people eat no more than one meal a month of New York State fresh-water fish, and that pregnant women, women of child-bearing age, nursing mothers and children under 15 years old eat no New York State fish at all.

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