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Scientists Urge Caution With PCBs

MADISON, Wis. (UPI) — An industrial compound that gets into food may be preventing some women from conceiving children, according to researchers at the University of Wisconsin.

The researchers also say a woman able to conceive may suffer a miscarriage because of the compound and children born to women exposed to high levels of the material are bound to be small.

The compound is known as polychlorinated biphenyl or PCB. Deborah Barsotti and Dr. James Allen have been using it in experiments with rhesus monkeys at the Wisconsin Regional Primate Research Center.

Allen said the Food and Drug Administration allows five parts per million PCBs in such foods as fish and poultry. Half that amount was put in the diet of eight adult female monkeys.

After six months on the diet, only three of the eight were pregnant after three matings with normal, untreated males, Allen said. He said another group was given five parts per million PCBs and only one became pregnant.

Yet only one in a third group of untreated females was unable to become pregnant, Allen said.

"We have not observed any birth defects," said Allen, 47, a professor of pathology. "They are exceptionally small animals, though — at least 100 to 150 grams lighter. We have had enough animals now, close to 12 to 15 births, and invariably they are quite small.

"They don't seem to 'catch up' either," Allen said. "The development is there. It's just that the animals are quite small, and this in an area where we have no clear cut explanation."

Allen said PCBs — highly indestructible and especially resistant to fire — have been used by industry since the 1930s, mostly as an insulator. He said they are found in sewage draining into rivers and lakes and enter fish.

Allen said PCBs are also found in eggs packaged in cartons made from recycled paper. The PCBs are found in the ink of waste paper and, once the paper is recycled as egg cartons, the PCBs penetrate the egg shells.

Allen said scientists were first concerned with PCBs as a possible hazard in 1968, when more than 1,000 Japanese were affected by a high level of PCBs that accidentally entered rice oil. He said the PCBs were being used as a coolant.

Allen said the Japanese suffered gastrointestinal disturbances. He said they also complained of sore eyes and developed acne. He said monkeys with PCBs in their diets also developed acne and enlarged livers and lost hair.

"Man is not likely to eat five parts per million in his diet on a continual basis," Allen said. "So our next step will be to more closely simulate the conditions where man will be consuming, let's say a fish once a week that contains five parts per million."

With the data the two have now, however, Allen said, "I would anticipate — I can't say because we haven't had experiments on man — but I would say if man were to consume such a diet as this, he would more than likely have difficulties."

Allen said it is not yet known at which level PCBs are not toxic.

"So until we know more about it, we must exert extreme caution in permitting this material to get into our environment."

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