Review: Evaluation of Changes in the Level of Polychlorinated Biphenyls (PCB) in Human Tissue

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The title is a little misleading because the study encompassed more than the title implies. Three things were done as part of the study. First, some laboratory research was done to improve the techniques for measuring PCB in human blood. Second, the behavior of PCB levels in human blood was examined in relation to seasonal changes and fish consumption. Third, the relationship of reported health conditions to PCB levels was investigated.

I am not competent to comment on the laboratory methodology development.

The second and third parts of the study were a combination of a cross-sectional and longitudinal study of a sample of persons with varying patterns of fish consumption. The description of the selection of the sample is very clear. Volunteers who ate sport fish from Lake Michigan were solicited. Controls who ate little or no fish were solicited from a random sample of households. There is therefore an element of self-selection, but as in the Triana study the principal concern is not to estimate PCB blood levels in the population but to relate those levels to other factors. Therefore I do not regard the self-selection as a serious problem.

Without going into specifics, the data collection appears to have been done competently.

The descriptive findings were that there was a correlation of PCB level with age, sex and fish consumption, in agreement with the study by Kreiss et al. Also, it appeared that there was no seasonal variation in PCB blood levels. None of these findings is health related.

The relevant health findings were as follows. A list of 17 conditions, many corresponding to reported symptoms of Yusho disease, was prepared. The mean PCB levels of those reporting each condition was compared with the mean for those not reporting the condition. For 14 of these conditions, there were enough "yes" responses to make statistical tests possible. There were no significant differences. In fact, for 11 of the conditions, those reporting had a lower average PCB level than those not reporting.

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I think this is a pretty good study. It can be attacked on the grounds that the questionnaire responses rely on the subjects' memories, which are fallible. However, there is not even the suggestion of an association between PCB levels and symptoms of illness.

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