St. Louis - General Offices

4/18/78

Health Effects of PCB's

Monte C. Throdahl
DID

PCB's are oily liquids which are poorly absorbed from the gut. Therefore, a single dose ingested would be largely excreted and minimal acute toxic effects would be expected. About all we would expect to see would be nausea, possible vomiting and diarrhea. The effects would be similar to ingesting a large dose of mineral oil. No other acute toxic effects resulting from PCB ingestion are known.

Repeated ingestion of small quantities of PCB's is an entirely different matter. This was the case in the Yushò incident. Here, small quantities of the material would be absorbed and stored in the body and chronic toxic effects have been identified in this situation. In Yusho there was repeated ingestion and the symptoms and signs resulting from this began to occur in 1968. The objective findings resulting from this include the following:

acne-like skin eruptions on the face, the buttocks and in areas where two skin surfaces are in contact.

skin pigmentation

swelling of the eyelids

inhibition of growth and abnormal teeth in children

smaller than average infants at birth

total body pigmentation at birth

bronchitis

bursitis

a decrease in triglyceride levels in females

anemia

increased lymphocytes in the white blood cell count

decreased blood levels of albumen

slowed electrical conduction in sensory nerves

In addition, the persons exposed complained of the following symptoms:

fatigue
headache
abdominal pain
numbness and pain in the extremities
cough and sputum
menstrual disturbances

As analytical methods improved, after the onset of this problem in Yusho, it was found that the cooking oil in addition to containing PCB's also contained polychlorinated dibenzofurans. With a second contaminant identified, a question as to which material actually caused the symptoms and signs exist? We do not know the answer to this question and I doubt that it would be possible to ever make a distinct determination.

Ernest Tillman M. D.

ET/mjb