MEDICAL TRIBUNE Wednesday, May 24, 1967

MEDICAL NEWS—International Review

Industrial Agents Toxic to the Liver Are Widely Used

Medical Tribune Report

STOCKHOLM—A new group of hepatotoxic compounds was described here at the Wenner-Gren Center by a Danish horticulturist-chemist from the Stockholm University Institute of Analytical Chemistry.

Søren Jensen said the compounds, polychlorobiphenyls (PCB), are at least as dangerous for higher organisms as the dichlorodiphenyltrichloroethane (DDT) insecticides, which they resemble, though slower-acting and nearly indestructible.

Mr. Jensen said PCBs are not naturally occurring but are used or do occur in a variety of industrial products. He confirmed their widespread presence in the lower atmosphere and in water and found that PCB damages the liver and skin of many species of fauna.

He cited 0.15 to 1 mg./cu.M. as the safe upper level of DDT in air. For PCB he would allow no more than 0.5 mg/cu.M., he told a staff research meeting at the center.

"Tops" Puzzle Researchers

The scientist, a research assistant at the institute, said biocide researchers had long been puzzled by some unidentified "tops" on their gas chromatograms. He found the clue in an article on air analysis in a British scientific journal, he said.

The compounds are not used as insecticides, nor are they produced in Sweden. Yet, he said, they apparently are widely used in Swedish industry and are imported in various finished products.

He cited an American investigation that, he said, reported the compounds' use in electric insulation, in fireproofing heat transport systems, in hydraulic oils and lubricating oils used at high temperatures, in paint, lacquer, and varnish, and as a pigment in various plastics.

Mr. Jensen said he had examined about 200 fish, great numbers of birds, wild and domestic animals, some trees and flora, and human skin and hair. This prompted his conclusion that PCB is now as common in the Swedish milieu as such chlorohydrocarbons as DDT and lindane.

"I found it in fish in Lapland. Curiously, I did not find a trace of it in herbivorous animals such as elk," he added.

But PCB most often is found in water dwellers, he asserted. He detected it, for example, in all the pike he examined. "In a white-tailed eagle found dead outside Stockholm," he said, "we found 30 mg./Kg. of mercury and an even higher level of PCB."

He said he had analyzed head hair from his family. His wife's hair contained the most PCB, but for some reason their five-month-old daughter had more PCB in her hair than her three- and six-year-old brothers, he said.

Dr. Jensen said the group of substances is "so stable, the liver refuses to deal with it. It cannot be broken down by flame. Regardless of the route by which it enters the body, it is harmful."

MONS 031623