6') Recent Topics in Diagnosis, Therapy and Prevention

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1. New oxime antidote

Unsatisfactory effects of 2-PAM on poisoning caused by newer low-toxic organophosphates are well known among clinicians. Also in animal experiments, the survival rates against fenitrothion, fenthion and carbamates poisoning were one half of that against TEPP and parathion. A new Japanese oxime TPMM has a combined structure of 4-PAM and methylmorpholine. Owing to its low toxicity and unlimited solubility, the large dose treatment became possible resulting universal effectiveness on organophosphate and carbamate analogues. The clinical application of the drug is urgently desired.

2. Gas chromatography for specific diagnosis

The gas chromatography is the most valuable method for the objective diagnosis in chemical poisoning. As it is so sensitive, unexpected results will sometimes be obtained.

The author found much methylmercury in hairs of the control group (Tokyo area) in the survey of Niigata fish poisoning case. It accounted to 70-80% of total mercury in hair. The source of contamination was attributed to normal fish meat which contained relatively high mercury. Methylmercury as high as 0.5 ppm was found even in ocean fish (tuna and yellowtail).

Except such apparently natural origin, fish and shellfish can concentrate chemical pollutant from water to the extent of several hundred times. Therefore hair and fish are the most reliable specimen for diagnosis of metallic poisoning or exposure to water pollution, when the normal values of the chemical in them have been well established.

3. Approval of new pesticides and tolerance

Starting this year, the three-month subchronic toxicity data are to be presented at the registration of new pesticides. Also the tolerances of five pesticides in food were fixed. The use of mercury pesticide is stopped hereafter. Parathion will be prohibited by 1970. These preventive measures will reflect on the future statistics of poisoning.

4. Services of poison control center are urgently desired in Japan.