

MEMORANDUM

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
~~HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION~~
CDC, National Institute for Occupational Safety and Health
DATE: MAY 24 1974

TO : Director, NIOSH
Thru : Director, ORSD *KER*
FROM : Chief, Criteria Development Branch
SUBJECT: July 17, 1973 Meeting with MCA on Vinyl Chloride

On July 17, 1973, several of us from NIOSH met with representatives of the Manufacturing Chemists Association (MCA) at MCA's request, to discuss work underway and planned on the epidemiology and toxicology of vinyl chloride (VC). MCA's stated purpose was to keep NIOSH informed of the work they were accomplishing.

MCA representatives were announced in advance by a letter from Mr. George Best, MCA, to Mrs. Joyce Potkay, ORSD; they were to be:

Dr. D.P. Duffield, Imperial Chemical Industries (England)
Dr. Tiziano Garlanda, Montedison (Italy)
Dr. W.E. Rinehart, Ethyl Corporation
Dr. V.K. Rowe, The Dow Chemical Company
Mr. R.H. Wheeler, Union Carbide Corporation
Mr. G.E. Best, Manufacturing Chemists Association

According to my notes, all attended except Dr. Garlanda. NIOSH representatives included Dr. Frank Mitchell, Dr. Don Lassiter, Mr. Richard James, Dr. Marcus Key, and myself.

The work of Viola, which purported to show primary lung tumors in rats exposed to VC, had stimulated general apprehension about the toxicology of VC, and, I inferred, was at least partially behind the concern of the MCA group. Acroosteolysis had been a fairly well documented effect among some workers involved in polymerization of VC to polyvinyl chloride (PVC), and reportedly was the reason that Viola initiated his rat studies several years ago. Dr. Duffield told of their concern with Viola's work, and had reexamined his data, which I presumed included reexamination of his tissue slides. Their interpretation (i.e. the interpretation of Dr. Duffield and his colleagues or consultants) was that Viola's tumors were not primary lung tumors, rather that the primary tumor was in the Zymbal's gland. Dr. Duffield commented on a study, which I presumed to be sponsored by ICI, going on in Italy (subsequently, as it appeared, by Professor Maltoni). The study involved exposures of Sprague-Dawley rats. The study was not complete, but some tumors had been found, and the study

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of the slides seemed to confirm ICI's reinterpretation of Viola's findings. From this, I inferred that Zymbal gland tumors had been found. (There was no mention of angiosarcomas.) ICI had started an epidemiologic study, which, as of the date of the meeting, "looks pretty good", i.e. may clear VC. He also indicated that studies of possible carcinogenicity of orally administered VC were not yet started, but would be. He also mentioned that pregnant female rats would be exposed, whether in the oral or the inhalation study not being clear.

The group reviewed the history of VC toxicology. In 1962, they reported, the Threshold Limit Value (TLV) was 500 ppm, and in 1963 this was changed to a ceiling value. They referred to the work of Greenberg and Adams, and a 1968 study on humans by Kramer and Mutchler. Acroosteolysis reports began to appear around 1966.

V. K. Rowe, who I inferred to be the spokesman for the group, commented that MCA had let two contracts for work on VC, an animal study with Industrial Bio-Test and an epidemiologic study with Tabershaw-Cooper Associates. They gave us written summaries of the research outline of the epidemiologic study and the inhalation study of rodents.

A few days prior to the meeting, I had had a visit from Herman Rirnbaum, 3M Company, who had told me of his company's inability to buy VC for propellant purposes. With this in mind, I inquired of the MCA group whether there were problems in VC supply. After querying me on the background of my question, they responded that several companies have stopped selling VC for propellant purposes, on the grounds of safety; these companies included Dow, Ethyl, FPG, and perhaps others.

A recent conversation with V. K. Rowe in May 1974 elicited the comment, after he consulted his notes of the meeting, that NIOSH had been told that the new Italian study had found tumors at 250 ppm but not at lower concentrations. NIOSH staff notes and recollection are non-confirmatory.

Copies of material distributed at the July 1973 meeting are attached.


Keith E. Jacobson, Ph.D.

This agrees with my notes and memory.


Frank L. Mitchell, D.O.

Attachments

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