



INTEROFFICE
MEMORANDUM

Date July 3, 1974

Subject Results of Medical Testing
Program

To All Employees

Calvert City & Pace Plants

(Location, Organization, or Department)

From T. L. Carey

Valley Forge

(Location, Organization, or Department)

We have just completed the medical testing of all of our employees at the Calvert City and Pace plants who have been involved in vinyl chloride or PVC operations and are now in a position to give you a summary of these results. Dr. Kotin's conclusions as presented at the OSHA hearing held starting on June 25 in Washington, D. C. are:

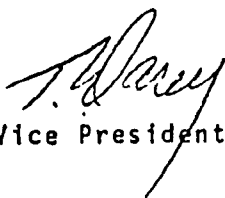
"I would conclude at this time that except for the case of acroosteolysis discovered in an employee in the Florida plant, the results of the screening comprising medical and environmental history, x-ray, physical examination, laboratory tests---and where indicated liver scan and biopsies---findings or diagnoses which point to exposure to VCM as a causative (sic) agent or mechanism were not identified. More specifically, we can state at this time that no cases of angiosarcoma have been identified."

To those of you who were tested, we would be pleased to make arrangements for the detailed results of your tests to be made available to your physician upon your request so that you may have a full medical explanation. We will also arrange for your physician to consult with Dr. Blalock or Dr. Beidleman about your test results if they so request.

We plan to continue the medical testing program on all employees still involved in PVC operations to any significant degree, and to keep them apprised of the results.

We are attaching Dr. Kotin's statement which he made at the hearing in Washington. If you have any questions about the program, please feel free to contact your plant personnel department.

TLC:adl
Attachment


Vice President - Manufacturing

AP00024181

Testimony by Dr. Paul Kotin ...

MR. FLEMING: Now, Doctor?

DOCTOR KOTIN: My name is Paul Kotin. I am a physician, graduated from University of Illinois Medical School, and my specialty is pathology; I have been a practicing pathologist and experimental pathologist during all of my career, a career which began with World War II, following which I entered the private practice of medicine in pathology for two years, went to the University of Southern California where I was, for fifteen years, leaving as the Paul Professor of Pathology.

I entered Government service in 1961 as the Scientific Director for Etiology at the National Cancer Institute; five years later served as the Founding Director of the National Institute of Environmental Health Sciences.

I was with Government until 1971, when I left to go to Temple University as Dean of the Medical School and Vice President for Health Sciences, and since June 1st of this year I have been Vice President for Health, Safety and Environment of the Johns-Manville Corporation.

My entire research career has been devoted to environmental diseases, especially environmental carcinogenesis,

AP00024182

and when not with the Government I worked both sides of the street; I was a consultant for a variety of Federal agencies as well as a consultant to private industry.

What I would like to do now is give you a report of the results of the screening of the present employees of Air Products and Chemicals Incorporated, who are engaged in the handling of vinyl chloride, and on the results of an examination of death certificates of those VCM employees who left the company or died while employed.

I was employed as a consultant by Mr. Richard Fleming, Group Vice President, Chemical Group of Air Products and Chemicals, in early February 1974, for the specific purpose of establishing and conducting a medical evaluation and surveillance program for employees exposed to vinyl chloride.

MR. KLINE: Excuse me, Your Honor. If I could interrupt, our copies don't have the good Doctor's presentation.

Would you have any extra copies, Doctor?

DOCTOR KOTIN: No. Actually, I don't because it was rewritten as of last night, incorporating the most recent data from our studies of employees and data from laboratory tests. It will be submitted for the record.

JUDGE MYATT: All right, Doctor; proceed.

DOCTOR KOTIN: As a first step, two physicians were identified in the areas where Air Products has vinyl

AP00024183

chloride operations -- Doctor William M. Blalock, of Paducah, Kentucky, and Doctor Barkley Beidleman, of Pensacola, Florida agreed to serve, and in consultation with them, a medical examination protocol was developed and carried out for employees in plants at Calvert City, Kentucky, under the supervision of Doctor Blalock, and at Pace, Florida under the supervision of Doctor Beidleman.

Both physicians are certified by the American Board of Internal Medicine. Doctor Blalock is a specialist in gastroenterology and hepatology, and Doctor Beidleman is a member of a large medical group who are specialists in gastroenterology and hepatology.

Following several meetings between myself and the two physicians, a screening and review procedure was adopted for Air Products' Employees at the two plants. Special emphasis was directed toward identifying and specifically testing for the two diseases for which there were demonstrated associations between vinyl chloride exposure and disease -- aco-osteolysis and angiosarcoma of the liver.

These areas of emphasis were just part of the complete review of each patient, which included the following:

A complete and detailed medical history was taken on each employee. Afterward, a physical examination and a series of laboratory procedures were performed, as follows:

AP00024184

Chest X-ray.

Hand X-ray.

A battery of laboratory tests which I will name,
for the purpose of making a point in a few moments.

Blood urea nitrogen.

Uric Acid.

Phosphorous.

Calcium.

Alkaline phosphatase.

Total protein.

Albumin.

Bilirubin.

Cholesterol.

Globulin.

Glucose.

Serum glutamic acid transaminase SGOT.

Lactic acid.

Dehydrogenase.

LD01.

Alphafeta protein.

Carcinoembryonic antigen.

Complete blood count with platelets.

And serum glutamate pyrubic transaminase SGPT.

I list this battery of tests, over half of which are
specifically directed to the liver, to indicate that it is a
battery that is required to evaluate liver function. No one

AP00024185

not even this group, is fully informative at all times.

Minor differences in the laboratory tests performed in Florida and Kentucky reflected the availability of laboratory resources.

Testing showing abnormal laboratory findings in any employee were repeated to assure their authenticity. In addition to the repetition of the preceding tests, when indicated, the following additional tests were performed on employees not previously having these tests: the two important ones were liver-scans and liver biopsies.

The persistence of abnormal laboratory findings, or the presence of signs and symptoms suggesting liver toxicity was followed by a further re-examination of the employee for the specific purpose of determining the desirability of a liver-scan and possible liver biopsy.

At Pace, Florida, 201 employees were tested, and 13 employees were found to have test results which varied from established norms. All these 13 employees were retested; four employees had normal results on retest, three employees had persistent minor variations which, in our opinion, did not require further testing at this time. These employees are scheduled for retesting in 90 days to determine their persistence.

Liver-scans were performed on six of the 13, all of which were normal. One case of acroosteolysis was found

AP00024186

during the examination, and this employee has been removed from vinyl chloride operations.

At Calvert City, Kentucky, 291 employees were tested. On the initial tests, we found 97 employees who had findings which varied from recognized norms. Equipment malfunction was suspected, and verified, and upon retest, 29 employees showed persistent abnormalities.

These 29 were scheduled for immediate retest. 16 employees showed persistent equivocal variations; as in the case of Pace, Florida, they are scheduled for retest within 90 days.

Of the 13 employees with persistent abnormalities when retested, six showed findings which directed to more complex and increasingly sensitive and diagnostic tests for liver physiology and anatomic state.

The six employees were examined by liver biopsy, intravenous pyelogram, upper and lower gastrointestinal series, a gallbladder X-ray, a repeat of the chest X-ray, and a complete physical re-examination.

Of the six biopsies, two were diagnosed as cases of Gilbert's disease, a congenital abnormality of enzyme metabolism, one case was identified as having chronic gallbladder disease with an anatomically abnormal gallbladder -- an intra-hepatic gallbladder, a gallbladder buried within the liver, and this is what gave us the cold spot on the liver-scan.

AP00024187

One case was diagnosed as having chronic gallbladder disease with coexisting persistent hepatitis.

One case showed chronic persistent hepatitis subsequent to an infectious hepatitis, and one case showed no abnormality.

I also examined the death certificates of former employees who had been engaged in the manufacture of vinyl chloride and who died either while working for or subsequent to leaving the company. I was unable to identify any relationship between the causes of death and the exposure to polyvinyl chloride in their work environment.

Throughout the entire testing and examination programs at both Air Products plants there were constant discussions between the physicians on site and myself; often on a daily basis. In addition, I have been to both the plants in Florida and Kentucky and personally reviewed records with the local physician.

I would conclude at this time that except for the case of acroosteolysis discovered in an employee in the Florida plant, the results of the screening comprising medical and environmental history, X-ray, physical examination, laboratory tests -- and where indicated, liver-scan and biopsies -- findings or diagnosis which point to VCM as a positive agent or mechanism were not identified.

More specifically, we can state at this time that

AP00024188

no cases of angiosarcoma have been identified.

JUDGE MYATT: Before you start, Mr. Fleming, you have submitted your statement and Mr. Barr's, and an appendix with it which is attached to it?

MR. FLEMING: Yes, sir.

JUDGE MYATT: All right, Mister Reporter, for the record, the statement of Air Products will be Exhibit 23-A and the Appendix will be 23-B, and I will ask you to designate in the record, although you do not have a copy, the report of Doctor Kotin as 23-C, and he is to supply us with a copy of that as quickly as possible.

(The documents referred to were marked for identification as Exhibits 23-A, 23-B, and 23-C, inclusive.)

AP00024189