

ETHYL CORPORATION

INTER-OFFICE CORRESPONDENCE

TO J. R. Davis, M.D. **ADDRESS** Houston Plant
FROM J. G. Burdick, M.D. **ADDRESS** Baton Rouge Tower
SUBJECT Workers in Vinyl Plant now mothballed **DATE** April 25, 1977

It was the unanimous opinion of the authorities participating in the University of Louisville's vinyl chloride workshop that annual examinations are not required for those who formerly worked at a vinyl chloride monomer plant, which is now shut down.

I suggest that you tag the medical folders of such individuals to make them readily identifiable, so you may give these individuals appropriate tests at the time of their regularly scheduled physical examinations. Such tests should include those mandated by the vinyl chloride standard. Also, I would urge that you check any individual who requests a special vinyl examination.

J. G. Burdick, M.D.
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cc: W. F. Armstrong
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EC4794

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Report of Workshop sponsored by the University of
Louisville Cancer Center's Vinyl Chloride Project
April 20-21, 1977

Dr. T. R. Robinson and I (JGB) attended this two-day workshop hoping to gain knowledge that might be useful in more precisely handling the medical testing program we have been doing on vinyl chloride workers. The meeting was disappointing to me in that it dwelt at length on the intricacies of a very complicated, costly and time consuming battery of tests which they have been doing for more than two years with absolutely no hard data yet from their most complicated computer programming. Their system is obviously too cumbersome, costly and slow for use in our day-to-day handling of potentially exposed workers.

While in Louisville, Dr. Robinson and I had a two-hour conference with Drs. John L. Creech, Jr. and Laszio Makk, who are the Goodrich Plant Doctor and Surgeon (Creech) and the hospital pathologist (Makk), who have handled all of the angiosarcomas found at the Louisville plant of B. F. Goodrich. These doctors reviewed 12 case records from the Baton Rouge plant with microscopic biopsy slides from about 6 cases. Their comments and advice was most helpful and, in my opinion, worth the time and expense involved in this trip. They have developed a practical protocol for medical surveillance of these workers.

These points are of interest:

1. "Liver function tests" (enzyme tests) have no definite value in predicting angiosarcoma or portal fibrosis (the non-malignant precursor or concomitant of angiosarcoma of liver). They are, however, legally required, so we must do them on those currently employed.
2. Liver scan is the best single nonsurgical diagnostic test but it diagnoses only after the fact (too late for cure or arrest of process).
3. Drs. Creech and Makk think the GGTP is as often confusing as it is helpful and will try to get it omitted from the OSHA mandated list of tests. This will take time, if it can be done.

4. They recommend liver scan and subsequently liver biopsy on all patients who have sustained test-elevations.
5. They restrict workers who have sustained elevations but they believe the maximum "incubation" period is about four years, so if liver scan and biopsy are negative, they plan to remove restrictions when tests go down or at end of four years (whichever comes first).
6. They do not recommend BSP excretion tests because of occasional allergic reactions (hazard is greater than pay off). They do use ICG (another dye excretion test) but say it also entails some risk of serious allergic reaction. I believe we will not use it.
7. Biopsy reports of "lymphocytic infiltration" and "fatty metamorphosis" have no relationship to vinyl chloride, but probably represent hepatitis or cirrhosis. "Multifocal portal fibrosis" is often a result of vinyl exposure. It may be just a thin layer beneath liver capsule in some cases.
8. Specific test idiosyncrasies:
 - a. LDH may be increased from trauma of intramuscular injection.
 - b. CPK is elevated in more than 10% of healthy blacks.
 - c. If congenital bilirubin elevation is suspected, try having patient eat a hearty dinner the night before and a large breakfast on morning the test is done. This may result in normal bilirubin test that day.
 - d. If GGTP is elevated, repeat getting triglycerides at same time. If both are elevated, the cause is probably dietary.
 - e. Many tranquilizers and antibiotics have hepatotoxic effects (cause transient enzyme elevations).
9. If an employee refuses vinyl examination, ask him to sign a statement, "Ethyl Corporation has informed me

of the necessity for special examinations of workers exposed to vinyl chloride and I am declining such examination."

If employee refuses to sign this statement, have someone witness your statement on his chart that he refused the tests and refused to sign.

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