

EPIDEMIOLOGICAL STUDY OF VINYL CHLORIDE WORKERS

Final Report - May 2, 1974.

I. SUMMARY

Eight thousand three hundred and eighty four men who had had at least one year of occupational exposure to vinyl chloride before December 31, 1972, were followed in a historical prospective mortality study. The major findings of the study are:

1. The overall mortality of the study population was approximately 75 percent of what would be expected in a comparable population of U. S. males.
2. No cause of death showed a statistically significant excess over what would be expected in a comparable U. S. male population.
3. No new deaths identified as angiosarcoma of the liver were found.
4. All previously known Angiosarcoma deaths in the study population during the study period were found as part of the routine study procedure.
5. Cancers of the liver (primarily angiosarcoma), respiratory system, brain, and cancers of unknown primary site, as well as lymphosarcoma, occurred more often than expected in those members of the study population with the greatest exposure. Even though the excesses were not statistically significant, the findings warrant further study.
6. Other cancers occurred at lower levels than in the general male population, with the exception of cancers of the buccal cavity and pharynx. There was an excess of these

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cancers, which however was inversely related to exposure.
The explanation for this finding is not apparent.

II. INTRODUCTION

The study was begun by Tabershaw/Cooper, Associates, Inc. on June 15, 1973, under contract from the Manufacturing Chemists Association. The original eight month period of the contract was later extended by two months, in consideration of logistical problems arising from the number of plants which participated in the study.

The objectives of the study are:

- (1) To compare the mortality of individuals who have worked in vinyl chloride plants with that of the general population;
- (2) To compare mortality patterns within the population of vinyl chloride workers, based upon estimated occupational exposure; and
- (3) To compare mortality among vinyl chloride workers with the mortality of other groups which TCA, Inc. has studied.

The study took the form of a historical prospective mortality study. The study population consisted of individuals who had worked for at least one year in a job involving exposure to vinyl chloride before December 31, 1972, and included retired and terminated as well as active workers. For each such worker the date of birth and an employment history were obtained, and the vital status of the worker as of December 31, 1972, was ascertained. For those found to have died, those death certificates that were available were obtained and the cause of death determined. The observed mortality was compared with that of the United States male population.

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