

Plastic Peril?

By Nancy L. Ross

About 45 minutes into an hour-long show on the dangers of vinyl chloride (to be broadcast tonight at 10 on Channel 9, pre-empting the Carol Burnett Show), narrator Morton Dean comments: "As we were putting this broadcast together, someone said, 'You're not answering my question, Mort; you're not telling me whether there is, in fact, a hazard.'"

In fact, Mort, we never find out. "CBS Reports: The Case of the Plastic Peril" is long on questions but short on answers. Expert after expert is quoted as saying, "We just don't know" how many parts per million of vinyl chloride in the air can be expected to cause cancer of the liver, or whether consumers using vinyl plastic products incur any risk, etcetera.

While CBS has come up with very little new information on the dangers of vinyl chloride, it has minutely detailed the investigations

made—or not made—by industry and government since the first deaths were reported last January at the B. F. Goodrich factory in Louisville, Ky.

We are reminded, for example, that the National Institute for Occupational Safety and Health (NIOSH) dropped all other research it was doing when the alert was sounded last January and put a team of "six to 10 people including one physician" on vinyl chloride, and that its investigators insisted upon wearing respirators in the factory even though the air level of the chemical at the time was considered safe by the government's own standards.

We learn the Environmental Protection Agency (EPA) refused to test levels in the area where two elderly people died, two miles from the factory; that the Food and Drug Administration knows which aerosol cans contain vinyl chloride but refuses to release the list for fear of

violating trade secrets; and that the Product Safety Commission has done no research thus far on vinyl chloride despite a promise last July by its chairman.

The tone runs toward the overly dramatic. Opening shot is a cemetery of tombstones of vinyl chloride victims. Same closing. In between, viewers are subjected to the pitiful spectacle of workers—one only 19 years old—who are suspected of having fatal liver cancer; to the grisly diseases it causes—collapse of the finger bones and changes in blood vessels and liver fibrosis leading to fatal hemorrhage; and finally, the grimmest statistics from the vinyl chloride plants: five times as much brain cancer, 10 to 11 times as much liver cancer, twice as much lung cancer and lymphatic tumors.

Full of gloom and doom, the voice of Morton Dean

intones: "The fear now... the Time Bomb Theory. Has an epidemic begun? ... Is this rare disease, angiosarcoma of the liver, about to become a common killer?"

The mind wanders back to the dire predictions made 20 years ago—or so—about the dangers of radiation to workers in nuclear energy plants. Yet, according to an EPA official, the death rate from cancer in these workers is no higher than that of the general population.

Will the same prove true about vinyl chloride 20 years from now? Well, as Dean says, too often the bodies are counted before the bureaucrats and businessmen react. If a Saturday night special to their head is what it takes to improve safety, so be it.

As for the viewers, we can only repeat the invitation E. G. Marshall issues his listeners at the end of each terrifying episode of Mystery Theater: "Good night and... pleasant dreams?"

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Epidemiologists — Where Are You?

Methyl butyl ketone, vinyl chloride, and polyvinyl chloride have created a furor the likes of which is unparalleled in the recent history of occupational health. Relatively few people have been affected. Some are paralyzed, some are dead. They died or are maimed by occupational diseases resulting from chemical exposures which everybody believed were harmless.

The incidents were discovered accidentally and not as a result of systematic surveillance. In one case it was an alert general surgeon who put two cases of angiosarcoma and vinyl chloride together. Fortunately for everybody concerned, he works with an enlightened management which did not hide the evidence, and the search was on. Fifteen more cases have been found. In the other case it was the substitution of one chemical for another which produced some 50 cases of peripheral neuritis. Four cases of this rare disease were reported to management from this plant. Later several more were discovered by the safety engineer to drag their feet and shuffle while at work. This eventually produced the full scale investigation resulting in a strike and the entry of State OSHA and NIOSH.

How many other cases of illness, how many other deaths are, or were, caused by occupational exposures? Shortly before the angiosarcomas we had acroosteolysis, a bone disease of the hands occurring in chemical workers who were exposed to vinyl chloride in enclosed spaces. Only for the last ten years has the causal relationship between malignant mesothelioma and asbestos exposure been accepted, and only 20 years ago many believed that Hueper, who documented the relationship between asbestos and lung cancer, was a radical nut.

What is our problem? We have had state, federal, and local agencies overseeing the working environment. We have highly trained industrial physicians, hygienists, and toxicologists working full time on health supervision. But, most of the time the discoveries of "new diseases" seem to occur on an accidental or personal basis, and rarely do they occur as a result of systematic efforts and research. Very often these discoveries occur only after several persons have died and others have been maimed. Which chemical, which disease is going to be the next one? Which industrial plant will be next to go through the agony experienced at Columbus Coated Fabrics or

Goodrich of Louisville? Where will the next instant experts hold their press conferences, uttering their hypotheses, generalizations, and accusations based on scanty or nonexistent evidence? Where will the next headlines point?

Something is wrong. The facts have been there, the cases have been around, but were missed for years. Occupational diseases consistently mimic other diseases which occur in the general population without occupational exposure. Emphysema in coal miners, peripheral and central nervous symptoms in CS₂ exposures, abdominal pains and other symptoms in heavy metal exposures, are just a few. Very often the first indication of an occupational problem is the occurrence of an undue number of cases of an illness in a limited universe. Proof is generally by comparison of observed incidence versus the expected rate. Unfortunately this occurs usually only after the accidental discovery of cases such as mentioned before.

The trained occupational health statistician or epidemiologist is conspicuous by its nonexistence in the occupational environment. Their existing numbers in our industries is probably less than ten. This vacuum is inadequately filled by part-timers, amateurs called plant physicians, medical directors, industrial hygienists, safety professionals who mostly act as fire departments extinguishing "urgent fires" and are so busy with many other duties that they have time only to direct their attention to problems when they become urgent. Also, their training in epidemiology and statistics is frequently nonexistent. The Dr. Creeches (who pointed out the connection between vinyl chloride and angiosarcoma) are extremely rare. He too made his discovery as a result of memory and astute observation and his inquisitive mind, not systematically with statistical know how.

Occupational health statistics are often nonexistent or not analyzed. The insurance departments of industries and insurance companies who may have the data rarely do more than pay bills. They are not geared for the discovery of occupational disease. Very often their function is taken over by Blue Cross or Blue Shield or other agencies which may code diagnoses tentative diagnoses, and may be death certificates, but don't find it worth their while to determine whether a disease is occupational or not. As long as bills get paid they are satisfied. If money is lost, rates go up, and that is all.

Where are we going? Will OSHA and NIOSH have to force industry to do proper preventive and analytical studies, or must our workers continue to die and get ill before a proper and systematic prevention effort gets underway at the source?