



November 13, 1985

Legal Section
Industrial Commission of Ohio
246 N. High Street
Columbus, Ohio 43215

OD 23650-22
Troy E. White
CPC of General Motors
Hamilton, Ohio

Attn: Judy Spencer

Dear Ms. Spencer:

On August 27, 1985 and again on September 11, 1985, I visited the Chevrolet-Pontiac-Canada Group Plant of General Motors, 4400 Dixie Highway, Hamilton, Ohio. Purpose of these visits were to conduct occupational disease investigations of workplace exposure to pigeon and bird droppings as claimed by the claimant and his subsequent medical diagnosis of histoplasmosis.

Discussion with the CPC-GM Health and Safety official revealed upon initial report of the disease in their workforce that an investigation was conducted by a GM corporate industrial hygienist which included taking a sample off a beam to determine if the infectious agent histoplasma capsulatum was present. Analysis of this sample by the Michigan Department of Health was negative (Atch 1). The immediate question that arises is if one such sample is adequate for such an epidemiological investigation. I am sure most public health officials would say not considering the voluminous amount of overhead beams. Of interest, and filed with this report is the investigative report filed by Local 233-UAW of the CPC-GM plant (Atch 2).

Work History

Review of the claimant's work history reveals he was hired on June 10, 1974 as an electrician. He has remained in this occupation to date. He was on sick leave from December 9, 1984 until December 16, 1984.

On-site Investigation

The CPC-GM plant was constructed in 1946. It is a large open plant containing high bays. Some pigeons and birds were observed flying overhead in the area of the high bay ceilings or nesting on

overhead girders. Some bird droppings were noted on the floor, and also on the inside/outside periphery of the plant.

It was reported that for approximately the last 2-1/2 years there was an on-going project of replacing the original four foot long fluorescent luminaires location in the high bays with sodium vapor fixtures. This was being done as an energy conservation measure, and was being accomplished in-house by plant electricians and maintenance personnel. It was also reported once the workers performing this task started complaining of being exposed to dust and bird droppings the use of respiratory protection was mandated. However, there is no evidence of whether the workers actually wore such protection--that they were more or less just made available. Of further interest is the report by both the company and UAW local of other electricians performing this task suffering from the same symptomatology as the claimant.

Epidemiology

The American Public Health Association Publication titled: Control of Communicable Diseases in Man, 12 Edit., 1975, reports the following regarding histoplasmosis:

"2. Occurrence - Foci of infection are common over wide areas of the Americas, Europe, Africa and eastern Asia and Australia; clinical disease is far less frequent and severe progressive disease is rare. Histoplasmin hypersensitivity, sometimes in as much as 80% of a population and indicating antecedent infection, is prevalent in parts of eastern and central U.S.A. Prevalence increases from childhood to 30 years of age; differences by sex are usually not observed except that the chronic disseminated form is more common in males. Outbreaks have occurred in families or in groups of workmen with common exposure to bird or bat droppings; airborne epidemics may occur in areas where contaminated soil has recently been disturbed. Histoplasmosis also occurs in dogs, cats, rats, skunks, opossums, foxes and other animals.

3. Infectious agents - *Histoplasma capsulatum* (*Emmonsella capsulatum*), a dimorphic fungus growing as a mold in soil and as a yeast in animal and human hosts.

4. Reservoir - Soil around old chicken houses, in caves harboring bats and around starling roosts; also around houses sheltering the common brown bat, and in other soils with high organic content.

5. Mode of transmission - Inhalation of airborne spores in dust.

6. Incubation period - In reported epidemics, symptoms appear within 5 to 18 days after exposure, commonly 10 days.

7. Period of communicability - Not usually transmitted from man to man.

8. Susceptibility and resistance - Susceptibility is general. Inapparent infections are extremely common in endemic areas and usually result in increased resistance to infection.

9. Methods of control -

- A. Preventive measures: Minimize unavoidable exposure to a contaminated and enclosed environment such as chicken coops and their surrounding soil, by spraying with water to reduce dusts; masks may be worn. Infectious foci can be decontaminated with 3% formalin.
- B. Control of patient, contacts, and the immediate environment:
 - 1. Report to local health authority: In selected endemic areas (U.S.A.); in many countries not a reportable disease.
 - 2. Isolation: None.
 - 3. Concurrent disinfection: Of discharges from skin lesions, sputum and articles soiled therewith. Terminal cleaning.
 - 4. Quarantine: None
 - 5. Immunization of contacts: None
 - 6. Investigation of contacts: Household contacts for evidence of infection from a common environmental source.
 - 7. Specific treatment: For disseminated or chronic pulmonary cases, amphotericin B (Fungiozone) is the drug of choice; side effects require that it be used with caution.
- C. Epidemic measures: Occurrence of grouped cases of acute pulmonary disease in or out of an endemic area, particularly with history of exposure to dust within a closed space, should arouse suspicion of histoplasmosis. Suspected sites such as chicken houses, barns, silos, caves, starling roosts, or basements should be investigated."

Of interest from this article is the observation that similar outbreaks have occurred in groups of similarly exposed workers, and the prevalency of this disease in the eastern and central USA.

Morgan and Senton in Occupational Lung Diseases, 2nd Edit, W.B. Saunders Company, 1984, p. 652, states:

"Histoplasmosis is caused by a fungal intracellular parasite of the reticuloendothelial

system, *Histoplasma capsulatum*. It affects a wide range of domestic and wild animals and is endemic in Ontario and in the Mississippi and Ohio valleys. Farmers in these regions, and particularly chicken farmers, are liable to be infected. Normally infection is either asymptomatic or self-limiting, but single or more often multiple military radiographic shadows occur. These have a tendency to calcify. Epidemics of histoplasmosis may occur, producing an influenza-like illness associated with diffuse pulmonary mottling in those affected. Occasionally a disseminated infection, requiring treatment with amphotericin B, may occur."

Of interest is the comment that this disease is prevalent and endemic in the Ohio valley.

Summary and Conclusions

It should be readily apparent that the claimant and co-workers performing the task of replacing luminaries over a two and one-half year period were exposed to bird droppings by virtue of the work they were doing. This is reinforced by the number of workers suffering the same health effects (as mentioned in the UAW report). If only the claimant was affected it might be assumed his disease (histoplasmosis) was contracted by chance due to it being endemic in the Ohio Valley. However, when the union reports the number of workers suffering from the same symptomatology, then one would have to hypothesize a direct relationship between histoplasmosis disease and workplace exposure to bird droppings as experienced by the claimant. As noted earlier in this report, similar outbreaks have occurred among workers.

Respectfully submitted,

Glenn L. Davis / m m

Glenn L. Davis
Industrial Hygienist

GLD/rr

2 Attachments

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RECORDS

CERTIFICATION

I, the undersigned, an employee of the Bureau of Workers' Compensation, do hereby certify that the microfilm images on this reel of microfilm or microfiche are complete and accurate reproductions of the original records of the SH as accumulated during the regular course of business, and that it is the established procedure of this department to microfilm its records for permanent file and to dispose of the original records after microfilm reproductions have been made.

William D. Hoyle
SUPERVISOR, Microfilming Unit

John F. H.
Name (Camera Operator)

Date 10/27/86

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