

December 27, 1944

PLAINTIFF'S EXHIBIT #4 Ritterhoff

Dr. N. J. Ritterhof
Director of Laboratories
The Tuberculosis Hospital
Price Hill
Cincinnati 8, Ohio

Dear Dr. Ritterhof:

I am very pleased indeed that you could let us have such a generous sample of tissue for chemical analysis of your fascinating case of carcoid and asbestosis. We will give it the works in order to ascertain what are present. The story will include not only chemical and X-ray diffraction analyses but I shall send it off for a spectrographic analysis. I am doing this because I am looking for control material to a series of carcoid or carcoid-like cases from the fluorescent lamp industry. I am doing everything that I can to determine whether there may be an industrial environmental factor involved in the etiology. Thus far we actually know very little; these people make fluorescent and other types of lamps and radio tubes in a very clean factory. Beryllium is under suspicion but in spite of intensive study the exposure to any particular substance seems very limited. Experimental work upon many of the chemicals involved has as yet produced no decisive results.

It is my own feeling that carcoid is probably due to some infection whose cause is unknown at the present time. Perhaps it is a virus. I can't reconcile the histological picture with tuberculosis as Dixon does so easily nor does it seem likely that the disease is due to Koch's bacilli or other acid-fast organisms. I believe that if any non-specific irritant is concerned, its role must be a minor one, probably acting as a trigger mechanism to allow the virus or whatever to do its act.

In your case the presence of asbestosis would seem to me probably merely coincidental, at least this is the first time this combination has been reported. I have studies on approximately fifty cases of asbestosis and I have never seen one complicated by carcoid. I would infer that in your case the two conditions developed more or less simultaneously but that probably the asbestosis was present to some degree before the carcoid appeared. This opinion is based on the occurence of asbestos fibres and other iron-containing particles in the interior of the tubercle-like nodules and in some cases within the giant cells themselves. The calcium encrusted inclusions in the giant cells are very frequent in all of the pulmonary sarcoids that I have studied. I do not know what they are but they look like bits of elastic

those that have attracted lime salts; others have an oyster shell appearance whose origin is hard to imagine. I see in the sections of your case a few of those doubly stained bodies which are a feature of sarcoid and in addition, I noted, as you mentioned, certain portions of fibre that have a yellowish cast which one suspects may be asbestos. Those, of course, are not uncommon in uncomplicated asbestosis. On the other hand, some of the asbestosis bodies in preparations have assumed most bizarre appearances.

At the risk of being monotonous about the occupational exposure I would appreciate it if you would tell me what sort of a plant the Philip Carey Manufacturing Company operates and whether you have any idea of the nature of their products. I am interested, of course, not only in the exposure to asbestos but in the possibility of an exposure to fluorescent substances. We shall probably be able to determine the presence or absence of the latter by spectrographic analysis but it would be helpful to know what possibilities are involved.

Personally I would hesitate to commit myself on the question of causal relationship between asbestosis and sarcoid. Such relationship may exist but from the evidence before us I would find it difficult to decide which was cause and which was effect. In view of the fact that the two conditions occur so rarely in the same lung I would rather entertain the opinion that chance was responsible for their simultaneous occurrence in your case.

After we get our various chemical and other analytical data together I would be very glad to give you my further comments to be used in your case report, if you so desire. I will admit that after inspecting the gross material I am more impressed with the extent of the asbestosis. In comparison with our other material the pigmented foci in your case seem to show more fibrosis and less localized emphysema. Histologically this can probably be explained by the presence of sarcoid nodules within the asbestotic zones of reaction.

Again may I express my appreciation for being allowed to study this unusually interesting case.

Sincerely yours,

Leroy U. Gardner, M. D.
Director

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