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Dear George:

I am trying to further clarify the issues of systemic response to AO and/or dioxin insult and the questions of potential for circulating antigens and antibodies associated with this.

It would appear that there is some evidence that chloracne may be a sequela to internal ingestion of dioxin. Do you agree? Is there a skin response to internal administration of this material?

If there is a skin response to internal administration then how is this mediated? Do you see a circulating haptene without a protein complex which is not recognized by the body as an antigen? Is it possible, assuming a skin response to an internal insult, that there is a circulating antigen? Could we detect this?

Further, according to Poland it would appear that a dioxin/messenger complex forms and this provides the transport for dioxin into the cell. Poland appears to assume that this complex is with a protein. This permits the practically insoluble dioxin to enter the intracellular milieu and, indeed, a second complex may be formed to permit transport of the dioxin into the nucleus. If such complexes form would not you anticipate that these could be recognized as antigens promoting antibody reactions?

Finally, assuming that the dioxin does not form a complex then does it not bind to the cell surface as the first step for transport into the cell. Would not this possibly be recognized as a surface antigen?

Initially, I am in the possibility of antibody formation as a possible approach to diagnosis of dioxin exposure. It appears that we now have proof that the vast majority of Americans have been exposed to and have absorbed dioxin into the system. Such a test might show that there is no difference between the AO plaintiffs and the average American. I am interested in this latter because I am trying to demonstrate that the AO plaintiffs were not "at unusual risk" by AO use. A test showing equal amounts of exposure in this group as the average stay-at-home would be useful.

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