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October 17, 1994

Dr. Daniel Hryhorczuk
Occupational Health and Safety Center
University of Illinois School of Public Health
Room 215
2121 West Taylor
Chicago, Illinois 60612

Dear Dr. Hryhorczuk:

Thank you for the opportunity to review your paper. We have provided minor editorial comments in the enclosed text of the paper. Our substantive comments on the paper follow.

We are not sure whether this paper is focusing on pentachlorophenol exposure, dioxins in general, or 2,3,7,8-TCDD. You review literature on all three topics and consider your findings of the pentachlorophenol workers in the context of all three potential exposures. Your reference to the studies which focus on 2,3,7,8-TCDD are clearly inappropriate since there is virtually no 2,3,7,8-TCDD in pentachlorophenol. We suggest you limit your literature review and discussion to pentachlorophenol and the hexa, hepta, octa dioxin and furans potential contaminants.

There is no discussion on how the cohort was enumerated. Were 941s used to define the study population and if so what years were used?

We suggest you state your a prior hypotheses and review the pentachlorophenol papers based on these hypotheses. You should also state the strengths and weaknesses of these studies. For example the paper by Klamems et al., the investigators evaluating symptoms were not blinded to the exposure. The strengths and weakness of these studies should be considered in your evaluation. You might add a table which summerizes the findings and non-finding of these studies as well as the strength and weaknesses of each to allow the reader to easily follow your arguments.

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Your use of only versus ever exposed to pentachlorophenol is confusing to the reader since these are not mutually exclusive groups. We suggest you consider using a more traditional occupational epidemiology approach using only cumulative duration of exposure. If you decide to keep your original categories of exposure, we suggest you use the cumulative duration of exposure for your significant findings (i.e., elevated GGT, coporphorins, tremors, attention impairment) as this would serve to provide a dose measure to help in the interpretation of your findings.

From Table 2 in your paper, it is clear that the exposed group differs from the unexposed group in several areas. Exposed workers have lower household incomes, are more like to be active workers, are older, smoke more and drink less than the unexposed group. These groups seem very different and even though you have mathematically tried to control for these differences in your analysis, you should discuss the limitations of your comparisons based on the differences between the groups.

Your findings of elevated GGT is not consistent with several other studies done on pentachlorophenol studies. Your study is the only study to find elevated levels. You should consider all possibilities of why there is this inconsistency including possible biases (e.g., more heavy drinkers in the exposed groups).

On page 22 you discuss the psychomotor function test. You should discuss whether you took into account education since the use of keyboard was involved.

Throughout the paper you discuss various normal ranges. You should mention what normal ranges were chosen for these tests and why.

Finally, you have presented all the positive findings, but not all of the findings. This gives the reader the impression that there are several positive findings when actually there are just hundreds of comparisons. Given the number of comparisons, it is not surprising there are some positive findings. You should attempt to consider the weight of the evidence rather than just focussing on positive findings when arriving at their conclusions.

Again, thank you for the opportunity to comment on your paper.

Respectfully,

James J. Collins, Ph.D.
Director of Epidemiology

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