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Gentlemen:

In April of 1975 CTR supported as a Special Project the preparation of a report on twin studies by Drs. Rune Cederlof, Lars Friberg, and Torbjorn Lundman of the Karolinska Institute in Sweden. The report titled "The Interactions of Smoking, Environment and Heredity and Their Implications for Disease Etiology - A Report of Epidemiological Studies on the Swedish Twin Registries" has been completed and copies have been received at CTR. The authors plan to publish this material as a supplement to Acta Medica Scandinavica in the near future.

We have read the report and would like to bring to your attention several of our observations concerning it. The explanations of the methodology of twin research and the descriptions of twin information registries appear to be well done and should be valuable contributions to the scientific literature. It was "clearly" shown by available data that smokers and nonsmokers differ in "a large number of behavioral and psycho-social items." This is a useful finding for obvious reasons. In regard to gross mortality, the data reveal that when suicides and accidents were excluded from the analysis, "virtually nothing remained of the smoking-associated mortality in the monozygotic (identical twins) groups. . ." The report contains a discussion of smoking and coronary heart disease (CHD), and the conclusion reached is that available twin data "fit with an assumption that an essential part of the hypermortality in coronary heart disease in smokers is caused by factors other than smoking."

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The treatment of smoking and lung cancer is disappointing in our view because the authors' conclusions do not appear to be supported by their data. The authors state that the data from the Swedish monozygotic twin series "speak strongly against" the constitutional hypothesis advanced by R. A. Fisher and others. In another section it is claimed that the twin data support the "irrefutable evidence of a causal association between smoking and lung cancer found in other studies." The authors observe that because of the low number of cases of lung cancer among the monozygotes (males 3, females 1), they decided to include data from the oldest cohort of twins which data were found unsatisfactory for other purposes in their report. As a result of the retrieval of the earlier data, the number of monozygotes who died of lung cancer totaled seven altogether. This number hardly provides strong support.

We anticipate that the statements mentioned above in regard to lung cancer will be used by some without a critical examination of the actual supporting data, and we wanted to inform you of this possibility. Sir Richard Doll has already referred to certain of the above lung cancer results in a recent article in the British Medical Journal.

Sincerely,



Donald K. Hoel

DKH:mlc

cc: DeBaun Bryant
Max H. Crohn, Jr.
Alexander Holtzman
Lester Pollack
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