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Smoking and Lung Cancer: Pros and Cons

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1. It has been shown that a high association exists between cigarette smoking and the incidence of lung cancer.
2. This association might be explained by either one of two alternative hypotheses:
 - (1) Cigarette smoking increases the probability that lung cancer will develop; that is, it acts as a causative factor.
 - (2) Cigarette smoking does not increase the probability that lung cancer will develop; but cigarette smoking is highly associated with some factor or factors that do cause lung cancer.
3. The following may be said of the first of these hypotheses: It has not been conclusively demonstrated by experimentation; but it is doubtful if anything short of human experimentation could produce evidence that would be universally accepted as absolutely conclusive. All other evidence bearing on the problem is consistent with this hypothesis. No evidence has been produced that strongly contradicts this hypothesis.
4. The following may be said of the second, or alternative hypothesis: A few factors (stress, heredity, etc.) have been suggested that might possibly produce a high incidence of lung cancer and at the same time be independently associated with heavy cigarette smoking. Evidence is lacking to support any one of the possibilities so far proposed. Such evidence may be developed by future research. Some factor or factors at present not under suspicion may perhaps act in this way; but this is unknown.
5. In my opinion, the first hypothesis is reasonable. It is supported by the fact that it is consistent with many bits of evidence no one of which is in itself conclusive. While the only alternative hypothesis that has been proposed is possible, it is a speculation virtually unsupported by any evidence now in hand. Until such time as strongly contradicting evidence is developed or the alternative hypothesis is proved, I believe that it is reasonable to subscribe to the theory that cigarette smoking increases the probability that lung cancer will develop.

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6. Cigarette smoking is certainly not the only cause of lung cancer. In my opinion, at the present time it is not possible to make an exact estimate of the proportion of lung-cancer cases in which cigarette smoking played a causative role. However, considering all information at present available, it appears to me that cigarette smoking is an extremely important factor.

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