

MEDICINE

Cigarettes and Cancer

Primary argument linking cigarette smoking to cancer comes from statistics showing an increase in lung cancer at the same time cigarette consumption has increased markedly.

► **BURNING BESIDE** the glowing tips of some billion cigarettes today is the hotly debated question, Does cigarette smoking cause lung cancer?

Tobacco company stocks dropped sharply after the medical reports early this month charging that it does. Whether and how much cigarette sales are off will not be known exactly until after the end of the year when records for the final quarter are available.

Tobacco company experts today are said to be more annoyed than scared, and to be readying answers to the medical charges.

When the worried smoker, however, asks his doctor what about it, the chances are he will be told to cut down on his smoking if he has been smoking heavily. Some doctors will advise stopping altogether, others may advise moderation, as most have in the past.

In the present state of knowledge, no one can guarantee that a person who quits smoking, or who has never smoked, will not get lung cancer. It can be said, however, that a person who has his chest X-rayed regularly has a good chance for early discovery of lung cancer if he develops one, and that an operation, especially in the early stages, to remove the cancer and the lung if necessary, has a good chance for success.

Primary argument linking cigarettes with lung cancer comes from statistics showing an increase in lung cancer has come during the same period that cigarette consumption has increased markedly. Backing this are statistics showing that, in cases of cancer of the lung, there is almost always a history of excessive smoking for a period of at least 20 years, and that it is rare to find lung cancer in a non-smoker.

However, a Yale professor, who is director of statistical research for the American Cancer Society, E. Cuyler Hammond, says there is still no reliable statistical evidence to prove that cigarette smoking causes cancer. Referring to previous studies, he said that "certain investigators, including myself, are not completely convinced as to the validity of the results, in spite of the fact that a number of independent studies conducted in more or less the same way led to more or less the same apparent conclusions."

Right now Prof. Hammond is directing a study of the smoking habits of 204,000 men. This study for the American Cancer Society is reversing the usual direction of such studies. It is designed to learn the smoking habits of men while they are alive and compare these with the causes of their deaths

when they die. In the past, the comparison has been of smoking habits of patients with lung cancer and those without it. This has the weakness that until a person develops lung cancer or until he dies, no one can say he is not a lung cancer patient or going to become one.

Some of the arguments linking cigarette smoking to lung cancer come from laboratory experiments with mice. Cigarette smoke tar painted on the skin of mice over about a period of a year will produce cancer in these animals. An answer to that could be found from laboratory experiments in which other tars painted on mouse skin produced cancers.

Cigarette smoke tar is not the only possible cancer-causing product of combustion to which men and women have been increasingly exposed in the past quarter century. Fumes and gases that pollute city air on a smoggy day can do more than smart the eyes. They can, in the opinion of more than one scientist, take a good share of the blame for the increase in lung cancer. Chemicals from these fumes, when painted on mouse skin, will also produce cancers.

More convincing, perhaps, than the skin-painting experiments are some reported about a year ago and also earlier. In the latest ones, mice were housed in a special cage with a specially designed automatic smoking machine. While the animals did not actually smoke cigarettes, they came as close to it as scientists could contrive. At least they breathed cigarette smoke from cigarettes smoked by the machine at the rate of one an hour for a 12-hour day.

Half a lifetime of this increased the chances of getting lung cancer by about one-third—that is, for mice with a hereditary tendency to lung cancer. Similar experiments run in 1943, but for a shorter time in mouse life, showed no difference in lung cancers between mice who "smoked" and those that did not. Maybe this means the smokers who quit have a better chance of escaping lung cancer than those who continue the habit.

Glandular activity that drives men and women to chain smoke may be a factor in causing lung cancer rather than the tobacco itself. This idea was advanced last year by a professor of surgery who has seen and operated on many lung cancer patients. He pointed out that there are numerous authenticated cases of lung cancer in persons who never used tobacco in any form.

Arsenic, sprayed on tobacco plants to destroy crop-eating insects, has also been blamed for the cigarette-lung cancer situation. If true, the remedy would be simple.

If cigarette smoking is related to lung cancer, it will be important to know the degree of the relationship, Prof. Hammond has pointed out. To use such a finding to save lives, either people must be persuaded to give up smoking or the harmful ingredients must be discovered and removed from cigarettes. Unless the relationship between lung cancer and smoking is large, neither is apt, in his opinion, to be accomplished.

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MEDICINE

Restore Brain Chemical Process in MS Patients

► **A CHEMICAL** that tends to restore normal brain and nervous tissue chemistry in multiple sclerosis patients has been discovered by Drs. John E. Adams and Gilbert S. Gordan of the University of California School of Medicine, San Francisco.

The National Multiple Sclerosis Society in New York, which supported their work, calls the discovery "significant in that it may lead to the cause and possible treatment" of this central nervous system disease that afflicts an estimated quarter of a million persons in the United States alone.

The chemical whose effect was discovered by the California scientists is called a succinate. They came to its discovery through a study of the way the brain tissue of MS patients handles another chemical, glutamic acid.

In 12 of 15 normal persons, amidation of glutamic acid was carried on by the brain tissue, they found. This, it is believed, represents a mechanism for removal of ammonia within the brain cells. Removal of the ammonia is a necessary factor to avoid poisoning in the nervous tissue.

In eight out of nine MS patients, however, the amidation of glutamic acid was not carried on. But injections of succinate into the veins of the patients restored the amidation pattern toward normal.

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DERMATOLOGY

Procaine Gives Relief To "Chronic Itcher"

► **THE "CHRONIC itcher"** who has not been helped by other recognized forms of treatment can sometimes be relieved of his misery by doses of procaine, Dr. Samuel R. Perrin of the Western Pennsylvania Hospital, Pittsburgh, reported at the meeting of the American Academy of Dermatology and Syphilology in Chicago.

Procaine is known chiefly as a local anesthetic. For relief of itching it can be taken by mouth, can be injected into veins or can be put right on the itching skin in a solution called efocaine.

In some of the more acute itchy conditions, Dr. Perrin said, the period of discomfort can be hurried over by procaine.

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