Studies indicate pollution factor in lung cancer

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A growing volume of studies shows that air pollution — as well as cigarette smoking — may contribute significantly to the incidence of lung cancer, according to a Washington environmental lobbyist.

In a study done for the National Resources Defense Council and in a similar report to the U.S. Environmental Protection Agency, two researchers concluded that air pollution caused at least 11 percent and possibly 21 percent of all lung cancer, said David Donniger of the NRDC.

The same study showed smoking to be related to 84 percent of all lung cancer, he added. The overlapping percentages indicate that air pollution tends to increase the risks already associated with smoking, the attorney said.

Other studies indicate that the percentage of lung cancer related to air pollution may be as small as 5-10 percent, but even that ratio is too high, he added.

The point is that “the case has been made that air pollution plays a major role,” the NRDC attorney said.

The study by Drs. Nathan Karch and Marvin Schneiderman also concluded that “cancer, by and large, is a disease that is the result of a combination of factors that come together in a chain of events,” the NRDC attorney said. “Most informed scientists do not attribute cancer to only one cause.”

Karch and Schneiderman did not rule out smoking as the chief cause of cancer, but they showed that air pollution — independent of and in conjunction with cigarette smoking — “plays a major role in the development of lung cancer,” Donniger said.

Scientists already know that certain chemicals and other substances cause cancer in certain occupations, such as shipbuilding where workers are exposed to asbestos, sandblasting and spray painting, according to Dr. Manse Gottlieb, a Tulane Medical School epidemiologist.

But there has been significant debate among researchers about the relationship between industry’s air emissions and lung and other cancers in nearby residents, Dr. Gottlieb said.

Her own 1979 study, which showed an increased risk of lung cancer among individuals who live within a mile of petrochemical plants, created controversy within Louisiana, according to Ben Fontaine of the American Lung Association of Louisiana.

Dr. Gottlieb’s study, which she said needed further research, revealed that persons who did not work in a high cancer risk industry, but who lived within a mile of a chemical plant were 10 times more likely to die of cancer than individuals fitting similar descriptions who lived from one to three miles from a chemical plant.

A follow-up study on that relationship could not be conducted because funding sources dried up, Fontaine said.

“The work that I have done stands,” Dr. Gottlieb said this week, adding that she hopes a newer study on the causes of lung cancer in Louisiana supports her findings.

The study, supervised by LSU pathologist Dr. Pelayo Correa, involved 1,300 cancer patients and about the same number of comparison subjects. Correa will present preliminary results of his research at an international conference on lung cancer in New Orleans this weekend.

He would not reveal any of his conclusions beforehand, but he emphasized that “smoking is still the principal cause of lung and other cancers.”

Another scientist who will speak at the conference has estimated that prohibiting smoking would eliminate 30 percent of all cancers, Correa added.

“You also have to take into consideration such things as genetic factors, air quality (on which we do not have enough information) and smoking hazards in determining what causes the high rate of lung cancer in Louisiana,” Fontaine said.

Some statistics show that Louisianians aren’t smoking any more than residents of other states, so “maybe there’s a synergistic relationship between smoking and other factors,” he added.

The NRDC study indicates that smoking and air pollution likely work together to produce lung cancer in many individuals, Doniger said. His organization has used that finding to argue for continued enforcement of the Clean Air Act of 1970.

“One possibility of preventing lung cancer would be better if we had better control of air quality,” Doniger said.

Doniger also pointed out that the decision not to smoke is a matter of personal choice while exposure to air pollution is often done without the knowledge of the person involved.