Gene could increase cancer risk, LSU research says

By MARY FOSTER
Associated Press writer
NEW ORLEANS — A gene that may be carried by one out of every 10 persons could make some of them more susceptible to developing lung cancer, researchers at Louisiana State University said Wednesday.

"There's only a suggestion that this gene exists," Dr. Joan Bailey-Wilson said. "If it does and a person with this gene smoked, the risk of getting lung cancer would be increased tremendously. It doesn't mean a person with this gene would automatically get lung cancer. It would mean they are much more susceptible to environmental factors.

The scientists have not discovered the gene; that is the next step, they said. But their research — information from interviews of 4,357 people — strongly supports the gene's existence, Bailey-Wilson said.

"It's not a wild theory or a guess pulled out of thin air," she said. "At this point, it's an educated hunch.

The LSU research team was investigating why lung cancer mortality rates in Louisiana are among the highest in the nation and why lung cancer appears to cluster in some families. They took genetic factors into consideration for the first time, said Bailey-Wilson, associate professor of biometry and genetics.

The findings, published in Wednesday's Journal of the National Cancer Institute, do not lessen the impact of environmental factors, Bailey-Wilson said.

"Lifestyle is still a major factor. If the gene is found, it would still mean that 80 percent of the people who get lung cancer do so because of environmental factors," Bailey-Wilson said. "The model predicts that the majority of people who get cancer, whether they have the gene or not, are smokers. Gene carriers are more susceptible, but it doesn't say at all that those who are carriers will get it, or all of those who aren't won't get it.

Among the people interviewed who had lung cancer by the age of 50, 22 percent appeared to carry the gene, Bailey-Wilson said. The figure dropped to 10 percent among people who developed lung cancer before they turn 70, she said, but by that time, other cancer causers would have had more time to play a part.

Once further research tracks down the gene to its spot on the DNA double helix and determines how it works, scientists should be able to develop tests to determine who carries it, said Robert C. Elston, a professor of biometry and genetics who took part in the study.

"There are several hopes for this if it turns out to be true," Bailey-Wilson said. "Number one is that we could identify people who are at extra high risk so they can be extra careful and so their doctors can monitor them more closely.

Identifying such a gene would also allow research that could lead to more information on cancer in general and it's treatment, Bailey-Wilson said.

Positive identification of the gene is still years away, she said. Researchers are applying to the National Cancer Institute for funding, but even if they get it, it will be a year before further research starts and several more before it's finished, Bailey-Wilson said.

To conduct the initial research, the scientists started in 1976 by studying autopsies and death certificates in 10 south Louisiana parishes to find lung-cancer victims. Then they interviewed these people's families — 337 in all — and found patterns of lung cancer in these families, said Dr. Henry Rothschild, professor of medicine.

Such clusters of cancer "could be explained on the basis of a gene being passed down," Elston said.

The scientists said they have not gone beyond Louisiana to determine how widespread this gene might be, but there is no reason to think the figures would not be about the same nationally, Bailey-Wilson said.

Since they were in Louisiana, they were working in the state with a lung-cancer rate 25 percent higher than that in the rest of the United States, according to data collected by the Louisiana Cancer and Lung Trust Fund. The rate among black men in New Orleans is the highest in the world.

About 3,000 cases of lung cancer will be diagnosed in Louisiana this year, and 2,700 Louisianians will die from it, the American Cancer Society estimates. Nationally, about 157,000 cases will be diagnosed in 1990, and about 142,000 Americans will succumb to it.

Lung cancer is the top killer among men and women, the organization says, with only a 5 percent survival rate.

Associated Press photo

Louisiana State University Medical Center scientists, from left, Robert Elston, Joan E. Bailey-Wilson and Henry Rothschild pose after having their findings published.