

**BIOMEDICINE**

From San Francisco, at the 91st Annual Meeting of the American Association for Cancer Research

**High estrogen linked to lung cancer**

Women seem more susceptible than men to the carcinogenic effects of tobacco smoke, research has indicated. New findings suggest that estrogen may also play a role.

When estrogen is present, some cells produce a protein on their surfaces called an estrogen receptor. The hormone can then bind to these cells and spur cell proliferation. Pharmacologist Jill M. Siegfried of the University of Pittsburgh found evidence of estrogen receptors in all five kinds of tumors from patients with non-small-cell lung cancer, the most common variety of lung cancer. Healthy lung cells rarely show estrogen receptors.

Initial tests showed that the tumors made the RNA that directs production of the estrogen receptor known as alpha. A second experiment revealed a profusion of estrogen receptor alpha on the surface of tumor cells, she says.

In another experiment, which compared lung tumors from two men and two women, Siegfried found that the surfaces of cancerous cells from the women had roughly twice as many estrogen receptor alpha molecules as those from the men had.

Women have more estrogen circulating in their systems before menopause than after it. Yet, on average, lung cancers strike women in their early 60s. It may take years for the carcinogenic effect of estrogen to result in diagnosable cancer, she says.

Moreover, women taking estrogen-replacement therapy have roughly twice the incidence of lung cancer that other women have, although the risk is small among nonsmokers.

The findings suggest that drugs that occupy these receptors without stimulating the cell to proliferate might be effective in lung cancer therapy, Siegfried says.

—N.S.