

EM9306: The Toronto Star, January 21, 1993, page D26

Smoking inhibits cancer therapy: study

BOSTON (Reuter) – Patients with head or neck cancer who continue to smoke while receiving radiation treatments considerably inhibit the effectiveness of the life-saving therapy, according to new research.

A study appearing today in the *New England Journal of Medicine* concludes that not only are smokers at higher risk for developing head or neck cancers but that they thwart the best means of treating the disease by continuing to smoke.

The study, by doctors at McMaster University in Hamilton, found the longer the cancer patients had sworn off cigarettes the more efficiently radiation killed their tumours.

"The results suggest that patients with head and neck cancer who continue to smoke during radiation therapy are less likely to respond to therapy and have a lower rate of survival than patients who do not smoke during treatment," they said.

The cancers disappeared in only 45 per cent of the smokers, compared with 74 per

cent of the non-smokers. The likelihood of being alive two years after the cancer treatment was 39 per cent for smokers and 66 per cent for nonsmokers.

For patients who had quit less than 12 weeks before their cancer was discovered, the death rate was 40 per cent lower than for people who continued to smoke.

Among people who had been off cigarettes for more than a year, the risk of death was 70 per cent lower.

The advantage of quitting may be even greater than those results suggest.

Dr. George Browman and his colleagues did not actually test patients to see if they were smoking. Instead, they simply asked each person if they were still smoking.

Because people are more likely to lie by saying they have kicked the habit, the clandestine smokers who claimed to have quit might have made the survival rate among the nonsmokers look less impressive than it could have been.

The Browman team said radiation treatments might be less effective in smokers because their blood carries fewer immune cells known as natural killer cells.

The tissues of smokers may get less oxygen, which could interfere with the effects of the radiation, they said.

"These results should encourage therapists to advise patients to stop smoking, and investigators should be aware that smoking behaviour may be an important factor in judging if radiation treatment for a tumour is effective, they said.

The Browman study is only the third to examine the effects of smoking on cancer treatment.

One 1980 study, published in the *Journal of the American Medical Association*, found that smoking made treatments less potent in patients with small cell lung cancer. A 1988 study found no effect.

REFERENCE: Browman, G.P., Wong, G., Hodson, I., Sathya, J., Russell, R., McAlpine, L., Skingley, P. and M.N. Levine: Influence of cigarette smoking on the efficacy of radiation therapy in head and neck cancer. *New Engl. J. Med.* **328**(#3): 159-163 (1993); the two investigations mentioned in the last paragraph above are references 9 and 10 of the journal article. [DC Library call number: PER R11.B7]

NOTE: In addition to the limitation imposed on the Answer by the *observational* Plan, the article EM9306 also mentions a limitation imposed by measurement error.

The article EM9306 reprinted above is used in Chapter 11 of the STAT 231 Course Materials.