Burning Incense Increases Risk of Respiratory Tract Cancers

Atlanta 2008/08/25 -Long term use of incense increases the risk of developing cancers of the respiratory tract, according to a new study. The new analysis, which the authors say is the first prospective investigation of incense and cancer risk, appears in the October 1, 2008 issue of CANCER, a peer-reviewed journal of the American Cancer Society.

Incense is an integral part of daily life in large parts of Asia. Researchers have shown that burning incense—which is made of plant materials mixed with oils—produces a mixture of possible carcinogens, including polyaromatic hydrocarbons, carbonyls and benzene. Because incense smoke is inhaled, a number of studies have looked at the possible link between incense burning and lung cancer, but results have been inconsistent. In addition, the possible association of incense use and other respiratory tract cancers has not been analyzed. To investigate this, Dr. Jeppe Friborg of the Statens Serum Institut in Copenhagen, Denmark and colleagues in Singapore and the U.S. studied the associations between exposure to incense and the whole spectrum of respiratory tract cancers in a large population in Singapore.

The study involved 61,320 Singapore Chinese who were free of cancer and aged 45-74 years in 1993-1998. At that time, they completed a comprehensive interview on living conditions and dietary and lifestyle factors. The investigators followed these individuals through 2005, noting which participants developed cancer during that time.

Dr. Friborg's team documented a total of 325 upper respiratory tract cancers (including nasal/sinus, tongue, mouth, laryngeal and other cancers) and 821 lung cancers during follow-up. Incense use was associated with a significantly increased risk of upper respiratory tract cancer (other than nasopharyngeal), but there was no overall effect on lung cancer.

The researchers also noted that the duration and intensity of incense use were associated with an increased risk of squamous cell carcinomas in the entire respiratory tract. Squamous cells cover the internal and external surfaces of the body.

According to the study data, incense use seemed to add to the increased risk of upper respiratory tract squamous cell carcinoma in smokers. It also considerably increased the risk in never smokers, which points to an independent effect of incense smoke.

The authors note that their study is the first prospective investigation on incense and cancer risk. They stressed that incense use extends beyond the Chinese populations—it is used on a daily basis in both temples and homes in many non-Chinese, Asian communities, including those in Southeast Asia and the Indian subcontinent. Regular use also occurs in the West.

"Given the widespread and sometimes involuntary exposure to smoke of burning incense, these findings carry significant public health implications," they wrote. "Besides initiatives to reduce incense smoke exposure, future studies should be undertaken to identify the least harmful types of incense," they added.

Article: "Incense use and respiratory tract carcinomas: a prospective cohort study." Jeppe T. Friborg, Jian-Min Yuan, Renwei Wang, Woon-Puay Koh, Hin-Peng Lee, and Mimi C. Yu. CANCER; Published Online: August 25, 2008 (DOI: 10.1002/cncr.23788); Print Issue Date: October 1, 2008.

David Sampson
Director, Medical & Scientific Communications
American Cancer Society
213 368-8523

david.sampson@cancer.org