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CAN DOGS SMELL CANCER?

Recent study shows a dog's extraordinary scenting ability can distinguish people with both early and late stage lung and breast cancers from healthy controls.

Thousand Oaks, CA, USA (January 5, 2006) – In a society where lung and breast cancers are leading causes of cancer death worldwide, early detection of the disease is highly desirable. In a new scientific study, researchers present astonishing new evidence that man's best friend, the dog, may have the capacity to contribute to the process of early cancer detection.

In this study which will be published in the March 2006 issue of the journal *Integrative Cancer Therapies* published by SAGE Publications, researchers reveal scientific evidence that a dog's extraordinary scenting ability can distinguish people with both early and late stage lung and breast cancers from healthy controls. The research, which was performed in California, was recently documented by the BBC in the United Kingdom, and is soon to be aired in the United States.

Other scientific studies have documented the abilities of dogs to identify chemicals that are diluted as low as parts per trillion. The clinical implications of canine olfaction first came to light in the case report of a dog alerting its owner to the presence of a melanoma by constantly sniffing the skin lesion. Subsequent studies published in major medical journals confirmed the ability of trained dogs to detect both melanomas and bladder cancers. The new study, led by Michael McCulloch of the Pine Street Foundation in San Anselmo, California, and Tadeusz Jezierski of the Polish Academy of Sciences, Institute of Genetics and Animal Breeding, is the first to test whether dogs can detect cancers only by sniffing the exhaled breath of cancer patients.

In this study, five household dogs were trained within a short 3-week period to detect lung or breast cancer by sniffing the breath of cancer participants. The trial itself was comprised of 86 cancer patients (55 with lung cancer and 31 with breast cancer) and a control sample of 83 healthy patients. All cancer patients had recently been diagnosed with cancer through biopsy-confirmed conventional methods such as a mammogram, or CAT scan and had not yet undergone any chemotherapy treatment. During the study, the dogs were presented with breath samples from the cancer patients and the controls, captured in a special tube. Dogs were trained to give a positive identification of a cancer patient by sitting or lying down directly in front of a test station containing a cancer patient sample, while ignoring control samples. Standard, humane methods of dog training employing food rewards and a clicker, as well as assessment of the dog's behavior by observers blinded to the identity of the cancer patient and control samples, were used in the experiment.

The results of the study showed that dogs can detect breast and lung cancer with sensitivity and specificity between 88% and 97%. The high accuracy persisted even after results were adjusted to take into account whether the lung cancer patients were currently smokers. Moreover, the study also confirmed that the trained dogs could even detect the early stages of lung cancer, as well as early breast cancer. The researchers concluded that breath analysis has the potential to provide a substantial reduction in the uncertainty currently seen in cancer diagnosis, once further work has been carried out to standardize and expand this methodology.

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The article “Diagnostic Accuracy of Canine Scent Detection in Early and Late Stage Lung and Breast Cancers” can be accessed at no-charge for a limited time on the *Integrative Cancer Therapies* web site at <http://ict.sagepub.com>.

About the Journal:

Written for everyone involved in comprehensive cancer treatment and care—from physicians and other health care professionals to complementary and alternative practitioners to informed patients—*Integrative Cancer Therapies* focuses on evidence based and scientifically sound understanding of the mechanisms of cancer therapies and the physiology of disease conditions, as well as the psychosocial and spiritual needs of the patient. The journal is edited by Dr. Keith Block, Medical and Scientific Director of the Institute for Integrative Cancer Care. Visit <http://ict.sagepub.com> for more information.

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