New study shows that a cough medicine ingredient could effectively treat prostate cancer

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A study published today in the December issue of the European medical journal *Anticancer Research* demonstrates that an ingredient used in a common cough suppressant may be useful in treating advanced prostate cancer. Researchers found that noscapine, which has been used in cough medication for nearly 50 years, reduced tumor growth in mice by 60% and limited the spread of tumors by 65% without causing harmful side effects.

Prostate cancer is the most common cancer among men in the United States. The American Cancer Society estimates that 186,320 men will be diagnosed with prostate cancer in 2008 and 28,660 will die from it. One man in 6 will get prostate cancer during his lifetime. Although slow-growing in most men, the cancer is considered advanced when it spreads beyond the prostate. There is no known cure.

The laboratory study was a joint effort by Dr. Israel Barken of the Prostate Cancer Research and Educational Foundation, Moshe Rogosnitzky of MedInsight Research Institute, and Dr. Jack Geller of The University of California San Diego. Noscapine has previously been studied as a treatment for breast, ovarian, colon, lung and brain cancer and for various lymphomas, chronic lymphocytic leukemia and melanoma. This study, however, is the first to demonstrate its effectiveness in treating prostate cancer.

Noscapine is a naturally-occurring substance, a non-addictive derivative of opium. As a natural substance, noscapine cannot be patented, which has limited the potential for clinical trials. Rogosnitzky notes that drug companies are generally unwilling to underwrite expensive clinical trials without being able to recoup their investment. A synthetic derivative of noscapine has been patented but has not yet reached the clinical testing phase.

Since noscapine is approved for use in many countries as a cough suppressant, however, it is available to doctors to prescribe for other uses as well. This common practice is known as "off-label" prescription. Noscapine is increasingly being used off-label to treat a variety of cancers. Dr. Barken used noscapine to treat a handful of prostate cancer patients before retiring from clinical practice. Encouraged by the success of these treatments, his foundation funded the laboratory study being reported in the December 2008 edition of *Anticancer Research*.

As founder and medical director of the Prostate Cancer Research and Educational Foundation in San Diego, Dr. Barken is encouraging academic institutions to follow up this successful laboratory research with a human clinical trial. He has pioneered a web-based patient tracking system that will greatly reduce the cost of the trial while cutting the time necessary to complete the study. Using the web-based tracking system will also allow doctors outside the U.S. to enroll patients in the research.

Rogosnitzky, director of research at MedInsight Research Institute, points out the significant advantages that noscapine could present as a treatment for prostate cancer. "Noscapine is effective without the unpleasant side effects associated with other common prostate cancer treatments. Because noscapine has been used as a cough-suppressant for nearly half a century, it already has an extensive safety record. This pre-clinical study shows that the dose used to effectively treat prostate

cancer in the animal model was also safe."

Hormone therapy and chemotherapy, along with radiation and surgery, are currently used to slow the progression of advanced prostate cancer. Side effects resulting from these treatments include impotence, incontinence, fatigue, anemia, brittle bones, hair loss, reduced appetite, nausea and diarrhea. No toxic side effects were observed in the laboratory study of noscapine.

Source: MedInsight Research Institute