

Brothers of prostate cancer patients undergo more diagnostic activities

August 19 2010

The brothers of men with prostate cancer are at an increased risk of prostate cancer diagnosis because of increased diagnostic activity and not necessarily because they carry a genetic mutation that increases risk of the disease, according to a study published online August 19 in *The Journal of the National Cancer Institute*.

Family history is a stronger risk for prostate cancer than for many other cancers and many epidemiological studies have shown an increased risk of the disease for brothers and sons of men with the disease. Since the introduction and wide-spread usage of the prostate-specific antigen (PSA) test in the early 1990s, the sons and brothers of men with prostate cancer have undergone more diagnostic activity.

To determine whether or not estimates of the familial risk of prostate cancer may be at least partially inflated by detection bias from increased diagnostic activity, Ola Bratt, M.D., of the urology department at the Helsingborg Hospital in Sweden, and colleagues, looked at data from the Prostate Cancer Database Sweden for patients who were diagnosed with prostate cancer between 1996 and 2006 and who were registered in the National Prostate Cancer Registry.

Their analysis included 22,511 brothers of 13,975 "index patients," who were prostate cancer patients with one or more brother and their fathers registered in Sweden's Multi-Generation Register, which includes family information for Swedish residents born starting in 1932.

The researchers found that incidence of prostate cancer was higher among brothers of prostate cancer patients than men of the same age in Sweden and that the incidence was higher still among men with both a brother and father with prostate cancer. Incidence was highest among men who had two brothers with prostate cancer.

However, the type of cancer most often detected was early-stage prostate cancer, which is typically detected by a [PSA test](#) and may or may not become clinically relevant.

The researchers also found that incidence of prostate cancer diagnosis among brothers of index patients was highest during the first year after the index patient's diagnosis.

Overall incidence of prostate cancer increased sharply in Sweden between 1999 and 2006, and a higher socio-economic status was associated with statistically significant increased risk of a prostate cancer diagnosis.

The authors conclude: "The increased diagnostic activity among men with a family history of prostate cancer, which we observed, will inflate family history as a risk factor for prostate cancer in populations of men who commonly receive PSA testing."

This finding could have clinical relevance, they report. "When counseling men about their risk of hereditary predisposition to prostate cancer, one should consider the possibility that a familial aggregation of prostate cancer may be at least partially caused by increased diagnostic activity," the authors write.

In an accompanying editorial, Ian M. Thompson, M.D., of The University of Texas, and colleagues, writes that assessments of variables affecting prostate cancer risk run the risk of unknown biases in most

studies. They write: "Perhaps the best tactic would be to change our approach from seeking risk factors for prostate cancer to an assessment of factors related to biologically consequential [prostate cancer](#)."

More information: jnci.oxfordjournals.org/

Provided by Journal of the National Cancer Institute

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