

What's good for the heart may be good for the prostate

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Men who eat a diet low in fat and red meat but high in vegetables and lean protein and who drink alcohol in moderation may not just be doing their hearts a favor. A new study shows that such a heart-healthy diet may also be good for the prostate.

Specifically, such a diet significantly decreases the risk of symptomatic benign prostatic hyperplasia, or BPH. The bothersome condition is associated with frequent and painful urination that affects about half of all men by the time they reach 50 and nearly all men by age 70. These findings by lead author Alan Kristal, Dr.P.H., and colleagues are published online in the *American Journal of Epidemiology*.

The researchers found that a high-fat diet increased the risk of benign enlargement of the prostate by 31 percent, and that daily consumption of red meat increased the risk by 38 percent. The study also found that eating four or more servings of vegetables daily was associated with a 32 percent reduction in risk, consuming high amounts of lean protein (about 20 percent of daily calorie intake) was associated with a 15 percent risk reduction, and that regular, moderate alcohol consumption (no more than two drinks a day) was associated with a 38 percent decline in BPH risk.

“It is known that obesity increases the risk of BPH. The dietary pattern that is associated with obesity among men in the United States is high fat consumption. The results of this study clearly show a link between a high-fat diet and increased risk of BPH,” said Kristal, member and associate head of the Cancer Prevention Program in the Public Health Sciences

Division at the Hutchinson Center.

Prostate enlargement puts pressure on the urethra, which makes it difficult to empty the bladder completely, which in turn results in the frequent urge to urinate. BPH is also associated with constant contraction of the prostate gland's smooth-muscle tissue, which also puts pressure on the urethra.

The mechanisms behind excess fat intake and increased risk of BPH are not clearly established, but likely factors include chronic inflammation and changes in steroid hormones.

“We don't really know how it's working but it's pretty clear that eating a high amount of fat – and it doesn't appear to matter what kind of fat – increases the risk of BPH,” Kristal said.

The study found small, incremental increases in BPH risk as fat intake increased, with the most substantial risk – more than 30 percent – among men who got about 40 percent of their calories from fat.

High fat intake increases the body's overall inflammatory response and it also increases levels of circulating hormones such as estrogens and androgens, he said, both of which may affect prostate tissue. In contrast, a low fat, high vegetable and moderate alcohol consumption pattern is associated with less obesity, lower circulating estrogens and androgens and less stimulation of the sympathetic nervous system.

“It is possible that these physiological effects moderate both the hormonally regulated prostate growth and heightened smooth-muscle tone that cause BPH,” the authors wrote.

The mechanism by which moderate alcohol consumption appears to protect against BPH may be due to its effects on the production and

metabolism of testosterone, Kristal said. Moderate alcohol use lowers circulating hormones and decreases muscle tone of the prostate.

Few studies to date have examined dietary patterns and BPH risk, and most have been small and have collected very limited data.

For the current study, Kristal and colleagues assessed diet, supplement use and alcohol consumption in 4,770 men for seven years, 876 of whom developed symptomatic BPH. They collected the data in the context of a larger randomized clinical trial that aimed to determine whether finasteride, a drug used to treat BPH, would also prevent prostate cancer. The men involved in this analysis, all 55 and older, participated in the placebo arm of the finasteride trial. All were free of BPH symptoms at the start of the study and received annual screening for signs of prostate enlargement.

“Being able to study men in the placebo arm who weren’t taking finasteride allowed us to look at factors other than finasteride to predict BPH risk,” Kristal said.

The study found no evidence that specific supplements, such as antioxidants, zinc or calcium, were associated with reduced risk.

Source: Fred Hutchinson Cancer Research Center

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