Green Tea and Prostate Health

Green tea (Camillia sinesis) is a potent antioxidant and an important tool in the quest for prostate health. Green tea’s medicinal powers are attributed to catechins, potent antioxidants that boast an array of health-promoting properties. Catechins have been shown to destroy certain bacteria and viruses, enhance the immune system, and combat several forms of cancer, including prostate cancer. Although there are several different kinds of catechins, the most powerful is epigallocatechin gallate, EGCG.

In a study published in the journal Cancer Prevention Research in June 2009, researchers reported that green tea polyphenols, primarily EGCG, significantly reduced the levels of PSA and two biomarkers for prostate cancer, hepatocyte growth factor (HGF) and vascular endothelial growth factor (VEGF). The study included 26 men who had prostate cancer and who were scheduled for radical prostatectomy. (McLarty 2009)

Green Tea, High Grade PIN and BPH

It also appears that catechins in green tea may benefit men who have pre-cancerous prostate lesions (prostate intraepithelial neoplasia, or PIN), a condition that indicates a high risk of developing “full-on” prostate cancer. Studies indicate that 30 percent of men who have a high-grade PIN go on to develop prostate cancer within one year after repeated biopsy. In a 2006 study published in Cancer Research, 60 men who had high-grade PIN participated in the double-blind, placebo-controlled study. (Bettuzzi 2006) Men in the treatment group received three 200-mg capsules of catechins daily. After one year, only one tumor was diagnosed among the 30 treated men, compared with nine cancers found among the 30 controls. The researchers also noticed that the men who took the catechins had reduced lower urinary tract symptoms, which suggests catechins may be helpful in treating symptoms of BPH.

Green Tea and Prostate Cancer Benefits

Studies of large populations of men have shown that those who consume green tea regularly are less likely to develop prostate cancer than men who shun the beverage. (Heilbrun 1986; Jain 1998) In other studies, researchers found that the risk of prostate cancer decreases proportionally as the amount, frequency, and duration of green tea consumption increases. (Jian 2004) In terms of amount of tea consumed, men who drank more than three cups of green tea daily showed a reduced risk of prostate cancer. In a large study that evaluated the green tea drinking habits of 49,920 men aged 40 to 69 who were followed for at least 10 years, the investigators found that men who consumed five or more cups of green tea daily had a reduced risk of advanced prostate cancer when compared with men who drank less than one cup daily. (Kurahashi 2008)

Research into the impact of green tea on prostate cancer suggests the following:

- It interferes with the activity of an enzyme called ornithine decarboxylase, which plays a role in the “birth” of prostate cancer (Gupta 1999)
- It slows the growth of human prostate cancer cells and prompts them to “commit suicide” (apoptosis) (Gupta, Ahmad 2000)
- It encourages the repair of damaged DNA that might otherwise promote cancer growth (Butt 2009)
- It inhibits the activity of an enzyme called COX-2, which accumulates in prostate cancer tissue and is involved in the prostate cancer process. (Hussein, Gupta 2005). Research shows that prescription medications called COX-2 inhibitors, such as celecoxib (Celebrex) have the ability to slow the growth of prostate cancer in animal models. However, a recent study published in Clinical Cancer Research shows that the EGCG found in green tea was nearly as effective as COX-2 inhibitors in slowing the growth of prostate cancer. (Adhami 2007)
- It stimulates the activity of certain immune system cells that fight tumors. (Butt 2009)
- A combination of soy protein concentrate and black tea together significantly reduce serum concentrations of both testosterone and DHT in vivo. (Zhou 2003)
- Green tea's antioxidant properties also contributes to its ability to reduce levels of DHT (dihydrotestosterone), a hormone that raises a man’s risk of developing BPH and prostate cancer.
Green Tea and Prostatitis

The catechins in green tea have also demonstrated an ability to treat prostatitis. In a rat model of chronic bacterial prostatitis, the animals were given either placebo, catechins, ciprofloxacin, or catechins plus ciprofloxacin. The catechins group alone showed modest improvements in inflammation and bacterial growth compared with the placebo group, but the combination of catechins and ciprofloxacin demonstrated significant improvements when compared with placebo. (Lee 2005)

A more recent study of green tea extract and prostatitis was published in the Journal of Infection and Chemotherapy in 2010. Researchers used rat models of chronic prostatitis and found that nanocatechins (catechins altered using nanotechnology) had more effective anti-inflammatory and antimicrobial effects on rat chronic prostatitis than “normal” catechins because the body was able to absorb them better. (Yoon 2010)

The amount of catechin in green tea varies depending on where the tea is cultivated, the diversity of plants used, the harvest season, and how it is processed. Generally, Japanese green tea has a greater EGCG content than does Chinese tea. According to an analysis of EGCG content in different types of green tea conducted by the authors of Foods to Fight Cancer, Sencha (a Japanese green tea) is superior to a dozen other Japanese and Chinese green tea varieties. (Beliveau 2007) Other Japanese green teas that rank high in EGCG content include Gyokuro and Matcha. Chinese green tea that is roughly equivalent to Matcha is pito chun emperor; other Chinese green teas that have a lesser amount of EGCG than Matcha and Pilo chun emperor are Hunnan, Yuzan, Paimutan, Meng ding, Lung chin, Dong ding, Pou chong, and Tikuan yin.

Dr. Geo Espinosa, N.D., L.Ac, CNS, RH (AHG)

References


University of Maryland Medical Center: http://www.umm.edu/altmed/articles/green-tea-000255.htm
