

## Asian Perspective on Prostate Cancer Prevention

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In near future, cancer is expected to become more serious in middle- and low-income countries, yet it has not attracted sufficient global attention.

Thus, cancer is a global problem, but, solutions have to be local because the epidemiology of cancer in Asia and in the West is very different. Due to the variation of the genetic and dietary factors, certain cancers are more prevalent in Asia than in the West and the response to treatment varies.

In addition, limited clinical trial data has hindered the development of evidence-based guidelines for cancer care in Asia.

To fill the gap, the United States' National Comprehensive Cancer Network (NCCN), through which 21 leading American cancer centers collaborate to conduct research and develop clinical care guidelines is approaching to Asia. NCCN makes selected clinical practice guidelines available in China and other Asian countries. It also holds meetings to discuss cancer issues throughout Asia.

But rather than tag along on an American initiative, It is reasonable that people in Asia take action to establish a similar Asian network, possibly collaborating with NCCN, and now it is growing out of the 20<sup>th</sup> Asia Pacific Cancer Conference (APCC).

In this conference, we already have groups working on proposals for advancing cancer prevention, diagnosis, and treatment, and I believe that we can set the stage for a more formal ongoing effort during this conference.

In the April, 2009, initial results of REDUCE study (REduction by DUtasteride of prostate Cancer Events study) were reported. A five  $\alpha$ -reductase inhibitor, dutasteride, which inhibits testosterone conversion to dihydrotestosterone (DHT, a potent androgen on prostate cancer carcinogenesis and progression), reduced the prostate cancer detection significantly in the prostate cancer- high risk group compared to placebo on the 2 and 4 year' scheduled biopsy. Together with the successful REDUCE study, and PCPT (Prostate Cancer Prevention Trial) which also had proved the prevention effects by another 5 $\alpha$ -reductase inhibitor, finasteride, it is convinced that DHT has an important role in the prostate cancer biology.

A large difference of prostate cancer incidence between Asia and West is strongly explained by a large difference

of the amount of soy food consumption between those areas. Soy isoflavones; genistein, daidzein, and equol are considered as major contributing factor to the lower incidence of prostate cancer in Asia. Soy isoflavones have a phyto-estrogenic action, and especially equol has a binding ability with DHT.

Equol has an unique feature, that is only metabolized from daidzein in human by some intestinal bacteria. Not all human has such bacteria in their intestine. Our study have shown that about half of adult male in Japan and Korea can metabolize daidzein to equol, but only about 10% in US. Our study also has shown the equol producer has a lower risk of prostate cancer than equol non-producer in Japan and Korea.

A double- blind placebo study using isoflavones containing tablets has shown the equol producer group with PSA elevation and biopsy negative, when they had 30mg of isoflavones tablets for 2 years, the prostate cancer detection rate decreased, although it was not statistically significant.

In addition to this clinical study, our study group has isolated equol producing bacteria from normal bacteria flora of an equol producer. Now, we are going to identify the responsible genes and enzyme in this bacteria.

In near future, those accumulating evidence established in Asia will contribute to reduce prostate cancer incidence and mortality in both West and Asia.