

# Yinglu Guo: PSA screening test requires wider application in China

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Prof. Yinglu Guo (*Figure 1*), MD, is an academician of Chinese Academy of Engineering, academic leader of Urology and Andrology. He is the honorary president of Peking University First Hospital and honorary director of Institute of Urology, Peking University; Dean of Peking University Urologist Training College and Andrology Center of Peking University First Hospital; Dean of National Urological, male reproductive Cancer Research Center and Ministry of Health Urological, male reproductive Cancer Medical Center; and President of Division of Urologist, Chinese Medical Doctor Association. Prof. Guo is also the Editor-in-Chief of *Translational Andrology and Urology* (TAU).

Prostate cancer is a common malignant tumor in the male genital system and the incidence is relatively high in Europe and in the United States. In China, the incidence of prostate cancer has increased in the past decade. Prostate Specific Antigen (PSA) test is a common screening method for prostatic cancers and it has always been valued by medical experts. However, PSA is controversial in most Western countries and in the United States. Incidence in Caucasian males is ten times higher than that in Asian males. Research results for Europeans may not be suitable for Chinese. Searching for methods of diagnosis and therapy suitable for Chinese prostate cancer patients is a current task for Chinese professionals. In this interview, we invited Professor Yinglu Guo to share with us his opinions about the current situation and development of prostate cancer and the future of PSA in China.

**DXY reporter:** Prof. Guo, thank you very much for accepting our interview. I would like to ask you several questions about the diagnosis and treatment of prostate cancer. It's a common malignant tumor of older men and the incidence is high in Europe and in the United States. In the past decade, the prevalence of prostatic cancer in China



**Figure 1** Prof. Yinglu Guo is interviewed by DXY.CN, the largest physician community in China with 3 million registered members.

has increased substantially. What do you think causes this problem?

**Prof. Guo:** It is my pleasure to do the interview with DXY. Prostate cancer used to be one of the most common malignant tumors for the male elderly in developed countries in Europe and in the United States. In China we considered it a minor illness and thus did not pay much attention to it. However, as the society becomes affluent in associated aging population, urbanization, western diet and better diagnostic technology, contributed to the surge in cases of prostate cancer. In Beijing city, prostate cancer patients comprise of the highest percentage of all hospitalized urology patients at Beijing Hospitals.

In my opinion, there are three causes. First, the Chinese

population is getting older. Prostate cancer is an old age-related disease and, age is surely a risk factor. It is natural that increasing incidence of prostate cancer accompanied the aging population.

Second is the changing dietary and westernized life style. It's universally accepted that high-fat diet is one of the risk factors in prostate cancer. For instance, the incidence of prostate cancer of Chinese Americans in Hawaii is 5.5 times of Chinese in Singapore, and 9 times of Hong Kong residents. Japan has the lowest incidence of prostate cancer in the world. However, studies show that Japanese immigrants in the United States have a higher incidence than Japanese who live in Japan, while lower than the Americans. China is in the process of urbanization, industrialization and globalization. Economy has developed rapidly and our dietary pattern has changed a lot. The life style change, especially the high fat intake, leads to the imbalance between risk factors and protective factors of prostate cancer. The incidence of prostate cancer becomes more noticeable in the low risk population.

Third, the incidence is also related to environmental pollution. Take Beijing as an example. There are more and more cars in Beijing because of the improvement of living standards. Environmental pollution is worrisome. It not only destroys our earth but also exerts a negative impact on our health. In large cities, high incidence of prostate cancer is closely related to environmental pollution.

Additionally, the lack of standard prevention and treatment of prostate cancer that is tailored to China's population accounts for the increasing number of men with advanced prostate cancer, so does the insufficient trainings for medical professionals.

**DXY reporter:** Prostate Specific Antigen (PSA) test is a common screening method for prostatic cancers. However, PSA is controversial in most western countries. One view is that PSA has little help in saving lives and often leads to excessive diagnostic tests and treatments. The other view is that we should not blame excessive treatment on PSA. A new analysis published in Chinese Journal of Cancer on July 30<sup>th</sup> stated that without PSA screening test, the number of advanced prostate cancer patients will be triple what it is today. You mentioned last year during our interview in the Andrology Forum that we should include PSA screening test into routine check-ups. What do you think of the current situation of PSA screening test?

**Prof. Guo:** I agree with the latter view that we should not blame excessive treatment on PSA screening test. Without PSA screening test, the number of advanced

prostate cancer patients would be three times the current observed number. In the times when there were very limited means to detect cancers, metastatic prostate cancer with clinical manifestations almost certainly meant death. For this reason, PSA screening test is of great importance in the early diagnosis of prostate cancer and reducing mortality rate. Consequently, because of more and more use of PSA screening test, it is inevitable that many patients with latent early prostate cancer are detected and some of them receive excessive treatment. A report by David H. Howard from Emory University indicated that the 2008 United States Preventive Services Task Force (USPSTF) suggested to reduce use of PSA screening and, accordingly, there was a quick drop in detecting early prostate cancer in men 75 years or older. Less people diagnosed with prostate cancer by PSA screening doesn't mean fewer incidents of prostate cancer. In some extent, it postpones the diagnosis and treatment, which will affect overall survival rate of prostate cancer and prognosis of all stages.

In China, PSA screening tests are much less likely to cause excessive treatment: the harm of prostatitis is exaggerated here; prostatic hyperplasia treatment is not standard and most of the diagnoses are too late. We should be alarmed by the excessive treatment situations in the West and in US and learn from their experience. For the time being, PSA screening tests need to be applied widely not only in under-developed parts of China but also in first and second-tier cities.

I'd suggest that medical professionals do not criticize PSA screening test or abandon it but search for more ideal biomarkers in order to reach a more precise diagnosis and thus better treatment for prostate cancer patients. Recently, a new series of molecular biomarkers have been discovered and being used in clinics. Many centers try to construct a prognosis model by large-scale outcome research projects. All these will promote a "Post-PSA screening test" era in the diagnosis and individual treatment of prostate cancer.

Furthermore, I hope medical professionals would make patients aware that we still depend on needle biopsy to diagnosis prostate cancer. Some patients worry that biopsy would cause metastasis of cancer but there is no proof of that yet. A properly performed prostate biopsy identifies the scope and degree of malignancy in addition to the diagnosis of prostate cancer. If patients are aware of this, they could overcome the fear of metastasis.

As we know, treatment of advanced prostate cancer, especially castration resistant prostate cancer (CRPC), is difficult and the prognosis is poor. With better

understanding of the molecular mechanism of prostate cancer, many new therapies are in clinical trial and some have been approved for clinical use. Would you like to discuss new treatment options?

**Prof. Guo:** There is no ideal treatment for prostate cancer, especially for advanced prostate cancer, but there are some new research results. A drug recently approved by the FDA, Abiraterone, can prolong life about 4 months for advanced prostate cancer patients. Abiraterone is well tolerated compared with other traditional drugs. However, the cost is a bit too high for most patients with average economic capacity.

**DXY reporter:** The 2010 and 2011 NCCN guidelines have had significant updates, while the 2012 NCCN guideline has little revision. Some experts think that treatments and therapies for CRPC may be different in the new NCCN guideline. What do you think of the possible changes?

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**Prof. Guo:** 2010 NCCN guideline proposed for the first time that active surveillance could be a treatment option for patients at low-risk and extremely low-risk, and 2011 NCCN guideline revised significantly in systemic therapy for Metastatic prostate cancer. New guidelines could have something to do with the approval of new drugs like Abiraterone and radium 223.

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### Footnote

*Conflicts of Interest:* The author has no conflicts of interest to declare.