Prostate Cancer Screening: Yes or No?

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Prostate cancer (Pca) screening via serum prostate specific antigen (PSA) measurement is controversial. A reliable and valid screening test for a specific disease should be cost-effective, be easy to perform, and have a statistically acceptable sensitivity and specificity. A 2011 study[1] demonstrated that "After 20 years of follow-up the rate of death from prostate cancer did not differ significantly between men in the screening group and those in the control group". Finally The United States Preventive Services Task Force (USPSTF) recommended against PSA screening in healthy men.[2,3] The USPSTF's investigations demonstrate that 80 per cent of men with increased serum PSA levels have a false-positive result, but they undergo a prostate biopsy which can have serious complication. The USPSTF recommendation isn't a mandate. The USPSTF stresses that men who want to get a PSA test still can get one, but only after the physician explains the limitations and uncertainties. In this case, the USPSTF concluded that the benefit of the PSA test in preventing mortality from PCa was minimal and was more than counteract by the complications of surgery or radiotherapy to treat cancers that would never have killed the patient. The leader of the USPSTF denoted that, for every 1000 men screened for PCa, maximum one will avoid a cancer death during a decade.[3] In that same group, two to three will have a serious complication resulted from PCa treatment such as a blood clot, myocardial infarction, stroke, or even death, and up to 40 will have urinary incontinence, erectile dysfunction or both. So, if screening doesn't save lives and may result in potentially severe complications, why do it at all? Also Owen Sharp, chief executive of the charity Prostate Cancer UK, believes that: "Although recent research does suggest that screening for prostate cancer may reduce the number of deaths from this disease, we still believe that the potential negative impact of screening outweighs its potential positives. As screening can potentially lead to over-diagnosis and unnecessary treatment we do not currently support the introduction of a national screening program.[4]" But The American Urological Association (AUA) blasted the USPSTF recommendations saying that the USPSTF was "doing men a great disservice disparaging what is now the only widely available test for prostate cancer.[5]" In additions many urologists reacted angrily. They state that the test is a "best practice" for decades. They note that PCa remains the second-leading cause of cancer deaths in American men, and that mortalities from PCa have dropped by up to 40 percent since the PSA screenings came on the urology armamentarium two decades ago. And they swear to tell everyone they know to

overlook the recommendation of the USPSTF.

Treating patients with PCa is a highly profitable business in some communities especially in the United States, and much of the urological practice is dedicated to this issue. Indeed some viewpoints are 'commercial" not "scientific". If men no longer get screened for PCa routinely, urologists will encounter a steady steep decline in patient visits and income. In addition pharmaceutical companies, medical industries, and private sector of health care have also great benefits from diagnostic procedures and treatment modalities for PCa. On the other hand governmental sector of health care should allocate significant amount of its resources for diagnosis and treatment of insignificant PCa. This is an important issue especially in communities with poor resources for health care. As Otis Brawley, chief medical officer of the American Cancer Society, noted in the Annals of Internal Medicine, the task force is "ideally suited to provide an objective, unbiased assessment" because its members, unlike many of their critics, "have no emotional, ideological or financial conflicts of interest.[6]" The USPSTF is an independent group of health care professionals which provides medical advice to the federal government and the public, too, on preventing diseases and health problems. I also favor the USPSTF recommendations, but I do understand why the urologists have their opinion. The present routine screenings for PCa too often bring flawed results and have resulted to a wide speared of anxiety, unnecessary surgery, overtreatment and treatment related complications. I applaud the USPSTF decision against the PSA testing because there is certainty that the screening has no net benefit, or even worse that the harms outweigh the benefits. Men treated for PCa often suffer from complications that affect adversely their quality of life such as urinary incontinence, erectile dysfunction and even bowl problems. Yet prostate biopsy bears potential risks of hospitalization, urinary tract infections such as prostatitis and other potentially fatal complications for instance septicemia. While PCa screening does help to determine more cancers, it has little or no effect on the rate of fatality from the cancer. The main problem with PSA test in addition to significant false positive results is that, it cannot differentiate between aggressive and non-aggressive cancers. In other words, although screening results in PCa being detected earlier, it does not inform us which cases ultimately will become aggressive. The Prostate Health Index (PHI) was approved by the Food and Drug Administration in June 2012 and now it is available. The advantage of the PHI is that it yields more precise risk assessment. It has been used in Europe since 2010. The PHI can reduce the number of biopsies done and, as a result, the number of men needlessly treated for slow-growing PCa. Using PHI physicians can evaluate the risk of PCa far more accurately than the serum PSA level alone.

What should physicians and health care providers do? How should patients set this controversy into outlook? Currently, many medical associations and government task forces have released their recommendations regarding PCa screening. These recommendations range from proposing screening not at all to suggesting annual screening starting at age 40. We should remember that some men have higher risk for developing PCa such as African-American men and those with a family history of PCa and may want to undergo regular PSA tests. I believe that we cannot recommend a single global advice for the entire world. Each society, ethnic group, region, specific population and community has own needs. It is the responsibility of the government task forces, ministries of heath, and scientific associations to provide necessary recommendations for related population.

REFERENCES

1. Sandblom G, Varenhorst E, Rosell J, Löfman O, Carlsson P. Randomised prostate cancer screening trial: 20 year follow-up. BMJ. 2011;342:d1539.
2. Moyer VA on behalf of the U.S. Preventive Services Task Force. Screening for prostate cancer: U.S. Preventive Services Task Force recommendation statement. Annals of Internal Medicine 2012; 157:120-134.
3. http://www.uspreventiveservicestaskforce.org/prostatecancerscreening/prostatefinalrs.htm
4. The Independent Thursday 07 February 2013, http://www.independent.co.uk/news/science/controversial-test-can-stop-prostate-cancer-7986020.html
5. http://www.hisandherhealth.com/component/content/article/662-center-aua-speaks-out-against-uspstf-recommendations
6. Brawley OW. Prostate Cancer Screening: What We Know, Don't Know, and Believe. Ann Intern Med. 2012;157:135-6.