

Thoughtful PSA Screening in the Elderly: Context is Everything

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There are few topics in medicine that are currently more controversial than prostate cancer screening with Prostate Specific Antigen (PSA) testing, particularly in elderly patients. Much has been written on the recommendations of the United States Preventive Task Force (USPTF), and more recently, on the updated American Urologic Association (AUA) guidelines on prostate cancer screening [1]. The recently released AUA guidelines categorize men into four groups: less than 40 years of age, age between 40 to 54 years, age between 55 to 69 years, and finally, age 70 years or older. In the elderly group, the guideline discussion recognizes that “men over age 70 years can have a life-expectancy over 10 to 15 years, and that a small subgroup of men over age 70 years who are in excellent health may benefit from PSA screening, but evidence to support the magnitude of benefit in this age group is extremely limited.” Many believe that the population most at risk to suffer harm from PSA screening is those “elderly men with limited life expectancies” [2]. However, it is physiologic age, not chronologic age, which should be considered.

Certainly, many elderly patients have more competing risks from co-morbid conditions accumulated overtime when compared to younger men. But, we, as clinicians, have historically done a poor job at assessing overall health status in prostate cancer screening and treatment decisions [2,3], and an equally poor job at predicting life expectancy of our patients [4]. These points are quite evident based on the results of the Prostate cancer Intervention Versus Observation Trial (PIVOT) where nearly half of all patients died from non-prostate cancer causes at median follow-up of 10 years, despite having an eligibility criterion which included at least a 10 year life expectancy [5]. Unfortunately, there exists no perfect descriptor of co-morbidity and overall health status. For example, even the often-used Charleston comorbidity Index does not take into account disease severity. The lack of objective predictors of overall mortality is not just a problem with prostate cancer patients, but is endemic to all of medicine [6].

In addition to including comorbid conditions into an individualized discussion of PSA screening, further research on screening is warranted beyond just the potential reduction (or lack thereof) in prostate cancer mortality. Elderly patients may be at even greater risk for aggressive prostate tumors compared to younger men [7,8]. Frequently missed in discussions of PSA screening is the potential reduction in prostate cancer morbidity, including the development of metastatic disease and the potential avoidance of androgen deprivation therapy (ADT). ADT is associated with worsening of cardiovascular disease risk factors. ADT has also been potentially linked to increased all-cause mortality [9]. Additional detrimental effects of ADT of particular concern for elderly patients exist, including an increased risk of osteoporosis and bone fractures [9]. Therefore, the long-term morbidity of ADT in the elderly population cannot be taken lightly. Further studies are needed to determine if the potential benefit from avoiding ADT in elderly men outweighs the risk of over-treatment and over-diagnosis in this population. In order to avoid the morbidity and cost of unnecessary prostate cancer treatment in this age group, active surveillance for low risk prostate cancer in elderly men should be considered first line therapy. Evidence continues to accumulate suggesting that active surveillance of lower risk tumors, with selective intervention upon tumor progression, can offer excellent long term oncologic outcomes while avoiding overtreatment for many men [10]. Rationale PSA

screening coupled with judicious use of active surveillance would likely minimize the burden of over detection and treatment in the elderly population. Future efforts are needed to develop more robust instruments to estimate life expectancy and the impact of competing risk from co-morbid conditions. These will need to be assessed within the context of the risk of developing clinically relevant prostate cancer. But, individualized decisions on screening must always occur within the context of the patient's overall health status.

Clearly the ‘one size fits all’ approach to prostate cancer screening is far from appropriate, but PSA screening should not be completely abandoned, even in the elderly. A personalized approach to screening which takes into account patient preferences, overall health, co-morbidities, and risk factors for developing clinically relevant tumors (i.e. race, family history of prostate cancer, previous PSA values, etc.) must be included into an informed decision making process. Certainly this risk-adapted approach requires more effort and thoughtful clinicians, in addition to significant time educating patients. Ultimately, thoughtful prostate cancer screening is likely the best approach for finding a balance between risk, benefit and outcomes. This strategy of risk-adapted screening with accurate comorbidity assessment, coupled with intelligent utilization of active surveillance, may best identify those elderly men at risk for prostate cancer metastasis and death, while still reducing the harms caused by over-diagnosis and overtreatment of indolent tumors.

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