Prostate Cancer: Detection and Screening

Moderated Poster 65

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2023

**ARE THE RIGHT MEN BEING SCREENED? TRENDS IN PSA SCREENING IN THE UNITED STATES (US)**

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INTRODUCTION AND OBJECTIVES: PSA based prostate cancer screening may have the greatest benefit for younger men who are healthier and have greater life expectancy. Previous highly publicized reports have shown that older men are inappropriately being screened in the US. Using nationally representative survey data we examined whether younger men are being screened and whether the screening in older men has decreased over time.

METHODS: The Behavioral Risk Factor Surveillance System (BRFSS) is an annual nationally representative telephone survey of the US population. Men older than 40 years answered questions on PSA screening in the years 2001, 2002, 2004, 2006, and 2008. The proportion of men who reported receiving a PSA test within the past year was plotted by year, separately for each age category. Multivariate logistic regression analysis was performed to evaluate the odds of screening in each age group after controlling for comorbidities, health care access, race, income, employment, education and region.

RESULTS: The survey represented 57,732,333 men aged 40 years and older in the US in 2001 and 66,123,149 men in 2008. The age-adjusted proportion of men undergoing annual PSA screening has remained constant from 2001 to 2008 (figure). Men aged 40−49 were least likely to have received a PSA test in the past year (~20%). This proportion increased to ~50% for men aged 50−59, to ~60% for age 60 to 69, and to ~70% for age 70−79. Among men aged 80 and older, ~60% of men received a PSA test in the past year. On multivariate logistic regression analysis, as compared to men aged 40−49 years, older men were more likely to get PSA screening (odds ratio: 2.2 for age 50−59; 4.2 for age 60−69, 4.8 for age 70−79 and 3.5 for age 80 and older).

CONCLUSIONS: Younger men who are most likely to benefit from PSA screening are being screened less than older men who derive the least benefit. Despite widely publicized reports, there has not been a decrease in the rate of screening in older men. It is plausible that much of the overdiagnosis associated with PSA screening is associated with inappropriate use of the PSA test.
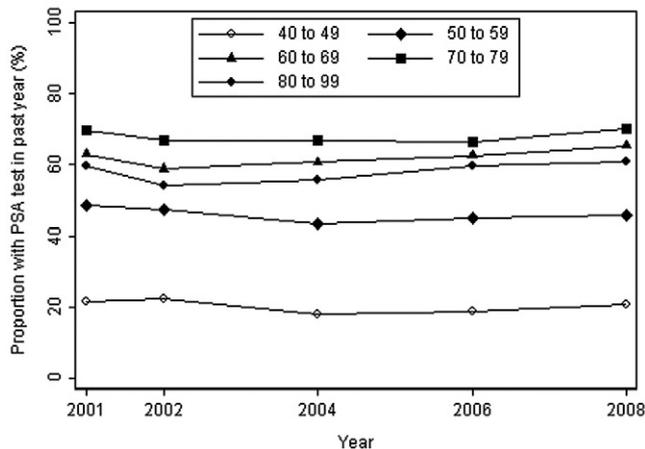
2024

**VALUE OF LONGITUDINAL PERCENT FREE PSA IN PROSTATE CANCER DIAGNOSIS**

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INTRODUCTION AND OBJECTIVES: There are limited data on the predictive value of longitudinal percent free PSA measurements (%freePSA) for subsequent prostate cancer detection. To evaluate the clinical importance of %freePSA kinetic before 12 core prostate biopsy, we compared it in patients with prostate cancer and in controls.

METHODS: A prospective, institutional review board approved database of 2208 twelve core prostate biopsy performed at our institution from February 2002 to January 2009 was searched for patients with 4 or more total and free PSA measurements (done in our centralized laboratory) within 1 year or more before biopsy. The slope of %freePSA was calculated with linear regression analysis.

RESULTS: 256 men entered the study. A total of 79 cancers (30.8%) were found at the ultrasound guided prostate biopsies. The median PSA before the biopsy was 7.05 ng/ml (range 1.4 to 52.7), median age was 62 years (range 36 to 84). Median %freePSA was 16.6 (range 1.48 to 50). Median PSA density was 0.14 ng/ml (range 0.03 to 0.99). Median %freePSA slope was −0.45 for prostate cancer patients and 0.28 for controls (p<0.001). On univariate and multivariate analysis percent free PSA, and %freePSA slope showed a significant ability to predict the outcome of a 12-cores prostate biopsy. At the Receiver Operating Characteristic (ROC) analysis the area under the curve (AUC) of %freePSA slope was 0.659 (95% confidence interval 0.597 to 0.717) better than that of PSA (0.555 and 95% confidence interval 0.492 to 0.617). A value of %freePSA slope equal to zero corresponded to a sensitivity of 65% and a specificity of 60%.

CONCLUSIONS: We found that %freePSA slope was an independent predictor of prostate cancer at 12 core prostate biopsy.
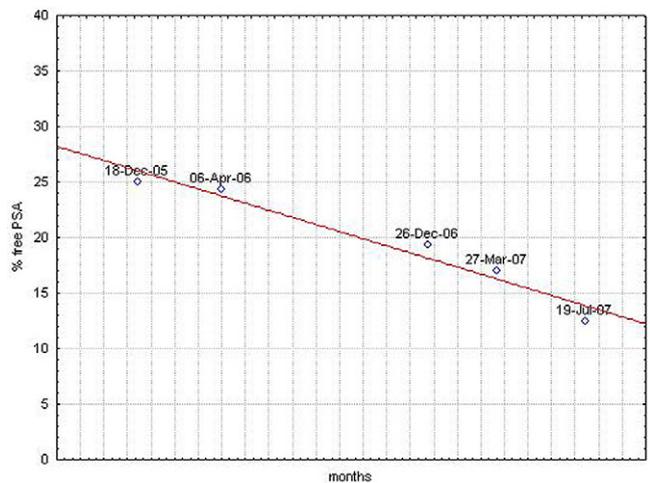
2025

CAN A SINGLE PSA MEASUREMENT AT AGE 60−70 YEARS IDENTIFY MEN WHO NEED NO FURTHER PSA TESTING?

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INTRODUCTION AND OBJECTIVES: For men ages 50 to 69, there is level 1 evidence that serial PSA testing reduces prostate cancer-specific mortality. However, Vickers et al. (BMJ 2010) recently suggested in a case-control analysis that men with a single PSA measurement <1 ng/ml at age 60 may not require additional screening. This practice might be reasonable if these men are not at risk for the development of prostate cancer (particularly, significant disease); whereas, if additional screening would help identify clinically significant prostate cancer continued PSA testing might be beneficial.