TO SCREEN OR NOT TO SCREEN: THE PROSTATE CANCER DILEMMA

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http://www.youtube.com/watch?v=8jD7bAHVp0A&feature=related
INTRODUCTION

- A government health panel (the USPSTF) recently recommended against PSA screening for prostate cancer because it does “more harm than good”.
- This contradicts most other society guidelines.
- This summary is to help the patient/doctor understand the role of PSA screening and screening guidelines.
Prostate cancer is common—240,890 new cases and 33,720 deaths in US 2011.

Initial surge in new cases but lately 3% yearly decline in incidence.
Decreasing numbers

- Since PSA screening, there has been a profound decrease in:
  - Age at diagnosis
  - Stage at diagnosis
  - Death rate
Most Prostate Cancer Indolent

- Autopsy studies show 70% of men over 70 have occult prostate cancer.
- PSA screening alone does not ‘risk stratify’ those innocuous from the life threatening tumors.
- The vast majority of men with prostate cancer die of other causes.
PSA Considerations

- PSA levels can vary
- May increase from BPH, UTI or instrumentation
- Decreases by 50% with finasteride or dutasteride
- Ejaculation or DRE has negligible effect.
- Lab variation can yield results up to 25% difference
- PSA accuracy-only ~1 in 4 men with abnormal PSA have prostate cancer.
- PSA cutoff of 4.0ng/dl not a valid threshold
- Age adjusted PSA, free PSA, PSA velocity and density
- New biomarkers (the PCA3 urine test)-all have shown promise, but none proven-PSA still the best.
Screening Cost and Morbidity

- Abnormal PSA leads to a prostate biopsy-5min office procedure which can cause stress, pain, bleeding and rarely infection.

- The main problem with PSA screening is that diagnosis is almost uniformly associated with aggressive treatment and thus overtreatment. (Carrol et al JCO Feb 2011).
Screening Cost and Morbidity

- FDA approved treatments include-alone or in combination-active surveillance, radiation, cryoablation, radical prostatectomy and androgen ablation.
- The main long term side effects may include urinary leakage, sexual dysfunction, rectal injury and depression.
- The yearly cost of just screening is over $2 billion. This does not include the accruing cost of primary therapy and subsequent treatments of side effects and or salvage therapy for failures.
3 major PSA Screening Studies

- **PLCO study (NEJM 2009)** 76,963 US men. Authors concluded no improvement in mortality at 7 years between control and screened men. Recent subgroup analysis found significant survival benefit in screened men <65 (JCO Feb 2011).

- **ERSPC (NEJM 2009)** 181,160 European men. Authors found no difference at 7 years, but at 9 years 20% reduction in death from prostate cancer.

- **Goteborg, Sweden (LO 2010)** 10,000 patients. At 10 years findings similar to the ERSPC study, at 14 years increasing survival benefit.
PSA Screening Studies

Conclusions

- Differences in methodology between these 3 studies.
- With longer follow-up there appears to be a significant and increasing survival benefit.
- There is overdiagnosis/overtreatment of prostate cancer.
- At best it is estimated that 293 men need to be screened and 12 treated to prevent one death. At worst, there is no statistical survival benefit to screening.
Screening Guidelines

- Screening often includes both PSA and DRE.
- High risk usually means blacks and 1st degree relatives.
- Shared decision making means informed discussion between patient and physician.
- Testing interval is usually annual.
- Most recommend no screening if no symptoms and <10 yr life expectancy.
Screening Guidelines

- ACS (American Cancer Society)
  - Age 50, 40-45 if high risk.
- ACPM (American College of Preventive Medicine)
  - Age 50. High risk at younger age.
- AUA (American Urological Association)
  - Age 40
- EAU (European Association of Urology)
  - Age 40
- NCCN (National Comprehensive Cancer Network)
  - Age 40
- USPSTF (United States Preventive Services Task Force)
  - No PSA screening recommended
Discussion

- It is important for patients and physicians to remain open minded about PSA screening and not dismiss it uniformly as nonbeneficial.
- It is only one group (USPTF) that is averse to any screening.
- PSA screening does detect prostate cancer at earlier stages when there are more options and success with treatment.
- Studies show varied results but there appears to be some survival benefit that accrues over time.
- Overdiagnosis and overtreatment clearly occurs.
Discussion

- Virtually all guidelines recommend a “Shared Decision” between physician and patient. But is this realistic and really possible given all the complexities and the constraints of an office visit?

- It can help to have a PSA screening decision aid available to the patient.

- www.mayoclinic.com/health/psa-test/MY00180/METHOD=print&DSECTION=all
KEY POINTS

- An informed decision by the patient is best-overdiagnosis needs to be discussed.
- Screening should include history of urinary troubles, bone pain and DRE and PSA.
- Informed men should be offered the test at age 40 or 50 if they have 10 yrs life expectancy. If symptoms, these age limits are not as valid.
- Interpretation of the PSA by the primary physician to assess risk is critical-the PSA threshold of 4 is no longer valid. The decision for urology referral and possible biopsy should include DRE, age, family history, ethnicity, symptoms, PSA velocity, etc.
- New biomarkers are being developed, but unproven. PSA is still the best test.
- There needs to be an “unlinking” by urologists between diagnosis and immediate aggressive treatment.