Interpretation of Serum PSA in Men Taking 5α-Reductase Inhibitors

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Issue

Does PSA testing provide false reassurance for men taking 5α-reductase inhibitors and, therefore, lead to a delay in diagnosis of cancer?
Prostate Cancer

- Most common solid organ cancer in men
- Second most common cause of cancer death in men (~30,000 per year)
- Serum PSA in conjunction with digital rectal exam is the most effective method of early detection
- European Randomized Study of Screening for Prostate Cancer reported a 20% reduction in prostate cancer mortality and a 41% reduction in metastatic disease at diagnosis in an intent-to-screen analysis conducted with a mean follow up time of 9 years
Prostate Specific Antigen

• Glycoprotein secreted by prostatic epithelium
• PSA is a serine protease responsible for liquefaction of semen
• PSA production/secretion is under androgenic control
• Serum PSA is indicated for screening for and monitoring prostate cancer
5α-Reductase Inhibitors (5-ARIs)

- Finasteride 5 mg: treatment of BPH
- Finasteride 1 mg: male pattern hair loss
- Dutasteride 0.5 mg: treatment of BPH
- PSA reduction of ~50% within 3 months
Prostate Cancer Chemoprevention Trial Designs

PCPT

3 mo.

1:1

Finasteride
5 mg:

Placebo

Placebo or Dutasteride (REDUCE)

Yr 2

Biopsy

Yr 4

Biopsy

Placebo or Finasteride (PCPT)

Unscheduled For-Cause Biopsy:

Yr 7

Biopsy

REDUCE

4 wk

Placebo Run-In

Dutasteride
0.5 mg:
Placebo
1:1
Conclusions

• Acute effect of 5-ARIs on PSA is a reduction of approximately 50%
• Chronic effect in men is either stabilization or a gradual decline
• Doubling of PSA is not valid for long term management
• Any increase in PSA is of concern even if the absolute value is within the normal range
• PSA values must be interpreted with caution in men taking 5-ARIs to avoid false reassurance
Communication Strategies

• Product labeling
  – Medications
  – PSA test kits

• Outreach to professional groups
  – Laboratories
  – Providers

• PSA laboratory reports