Antimicrobial Prophylaxis for Transrectal Prostate Biopsy: Organizational Recommendations

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Official Recommendations for Prophylaxis

Organizations (other than AUA)

- Canadian Urological Association (CUA)
- European Association of Urology (EAU)
- National Comprehensive Cancer Network (NCCN)
- Center for Medicare & Medicaid Surgical Care Improvement Project (CMS-SCIP)
- American Medical Association Physician Consortium for Performance Improvement (AMA-PCPI) (creates measures, including among others for Physician Quality Reporting System [PQRS])
Principles of Surgical Prophylaxis

“Surgical antimicrobial prophylaxis is the periprocedural systemic administration of an antimicrobial agent intended to reduce the risk of postprocedural local and systemic infections.”
Other Measures to Reduce Biopsy-Related Infections

- Bowel preparation (entire bowel)
- Sterile preparation of rectum
- Cleansing enema
- Dipping needle in cleansing solution
- Others
“The potential benefit of surgical antimicrobial prophylaxis is determined by 3 considerations: patient-related factors (ability of the host to respond to bacterial invasion), procedural factors (likelihood of bacterial invasion at the operative site), and the potential morbidity of infection.”
Surgical Wound Classifications

- Clean
  - Uninfected, primary closure
- Clean-contaminated
  - Respiratory, alimentary, genital, or urinary tracts
- Contaminated
- Dirty-infected
Surgical Wound Classifications

- **Clean**
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- **Contaminated**
- **Dirty-infected**
Principles of Surgical Prophylaxis

- “Surgical antimicrobial prophylaxis is recommended only when the potential benefit exceeds the risks and anticipated costs.”
Costs

- Financial
  - Expense of administration, expense of treating adverse outcomes
- Personal-health
  - Allergic reactions, antimicrobial-associated superinfection
- Public-health
  - Induction of bacterial resistance
Principles of Surgical Prophylaxis

- “The antimicrobial agent used for prophylaxis should be effective against the disease-relevant bacterial flora characteristic of the operative site. Cost, convenience, and safety of the agent also should be considered.”
“The duration of surgical antimicrobial prophylaxis should extend throughout the period in which bacterial invasion is facilitated and/or is likely to establish an infection.”
Duration of Therapy

- Infusion of first dose should begin within 60 minutes of the surgical incision (with the exception of 120 minutes for intravenous fluoroquinolones and vancomycin)
- Single dose, or at the most discontinued within 24 hours
- Potential caveat for prostate biopsy...
Duration of Therapy

- Existing infection (contaminated field)
  - Options
    - Give full course to sterilize
    - If not possible, aim to suppress bacterial count
  - Neither option is reasonably feasible for transrectal biopsy
“Broad-based gram-negative antibiotic prophylaxis (e.g., fluorquinolone) should be administered prior to biopsy and may be continued for 2 to 3 days post-biopsy ... many centres have moved towards shorter courses of antibacterial prophylaxis.”
Official Recommendations for Prophylaxis

EAU

- 2013 Guidelines on Prostate Cancer
  - “Oral or intravenous antibiotics are state of the art treatment”
  - “Quinolones are the drugs of choice … but in the last few years increased resistance to quinolones has been reported”
Official Recommendations for Prophylaxis

EAU

- 2013 Guidelines on Urological Infections
  - “Antimicrobial prophylaxis ... is generally recommended”
  - “The choice of regimens remains debatable.”
  - “1-day and even single doses are sufficient in low-risk patients.”
Official Recommendations for Prophylaxis

EAU

- 2013 Guidelines on Urological Infections
  - “Increase in fluoroquinolone resistance has raised the question of appropriateness of current recommendations.”
  - “No clear cut alternative is evidence-based.”
  - “Consider the need for a rectal swab.”
Official Recommendations for Prophylaxis

NCCN

- 2013 *Prostate Cancer*
  - No recommendations about antimicrobial prophylaxis
  - In Discussion section, fluoroquinolone resistance is mentioned
Official Recommendations for Prophylaxis

NCCN

• 2012 Prostate Cancer Early Detection
  • No specific recommendations about antimicrobial prophylaxis
  • In Discussion section, fluoroquinolone resistance and possible use of rectal swabs are mentioned
Official Recommendations for Prophylaxis

AUA (updated 1/1/2014)

- All regimens ≤ 24 hours
- First line
  - Oral fluoroquinolone
  - IV / IM 1\textsuperscript{st} / 2\textsuperscript{nd} / 3\textsuperscript{rd} gen. cephalosporin
- Alternatives
  - Oral TMP-SMX (as of 1/1/14)
  - IV / IM aminoglycoside or aztreonam
  - (clindamycin and metronidazole removed as of 1/1/14)
AUA Deliberations with CMS-SCIP

- Need for Urology-specific antimicrobial prophylaxis regimens was primary impetus for the creation of AUA’s 2008 *Best Practice Policy Statement on Urologic Surgery Antimicrobial Prophylaxis*
- AUA has worked closely with CMS-SCIP to harmonize recommendations
- CMS-SCIP and AUA recommendations are identical
AUA Deliberations with CMS-SCIP

- AUA has successfully proposed:
  - Addition of IV 1st gen. cephalosporins
  - Addition of IM route
  - Addition of oral TMP-SMX (!)
  - Removal of clindamycin and metronidazole

- AUA has failed to get accepted:
  - Oral cephalosporins
  - Rectal swabs
AUA Deliberations with AMA-PCPI

- AMA-PCPI not willing to harmonize recommendations with AUA
- AUA felt that a bad measure was worse than no measure at all!
- In July 2013, in response to AUA request, AMA-PCPI agreed to recommend to CMS that CPT codes 55700 and 55706 be dropped from PQRS #20: Timing of Antibiotic Prophylaxis-Ordering Physician
Official Recommendations for Prophylaxis

Are the official organizational recommendations sufficient to direct best practice?