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# Transrectal Ultrasound Guided Prostate Biopsy Antibiotic Prophylaxis: Standard vs. Augmented Antibiotic Regimens, and the Role for Pre-Biopsy Rectal Swab Cultures

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# Transrectal Ultrasound Guided Prostate Biopsy Antibiotic Prophylaxis: Standard vs. Augmented Antibiotic Regimens, and the Role for Pre-Biopsy Rectal Swab Cultures

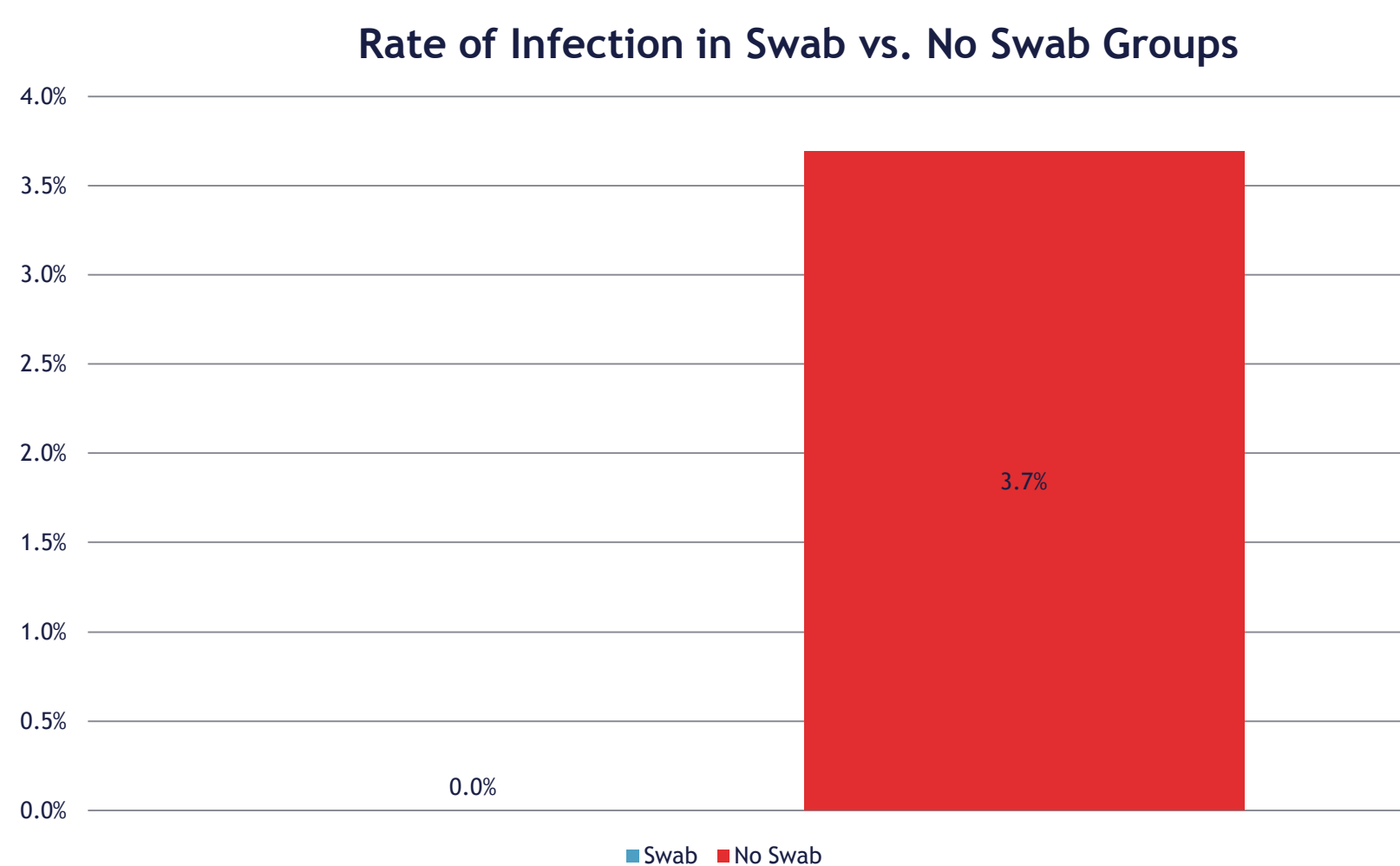
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## Background

- Current AUA guidelines recommend a single dose of fluoroquinolones (FQs) or cephalosporins prior to transrectal prostate biopsy.
- FQs are standard in the prophylaxis of transrectal prostate biopsies; however, they have come under scrutiny as a result of increasing resistance and FDA Black Box warnings.

## Objectives

- To evaluate peri-procedural antibiotic prophylaxis regimens based on pre-procedural rectal swab cultures.
- To evaluate infection rates between transrectal biopsy patients receiving FQs alone and those receiving ceftriaxone or gentamicin in addition to FQs.

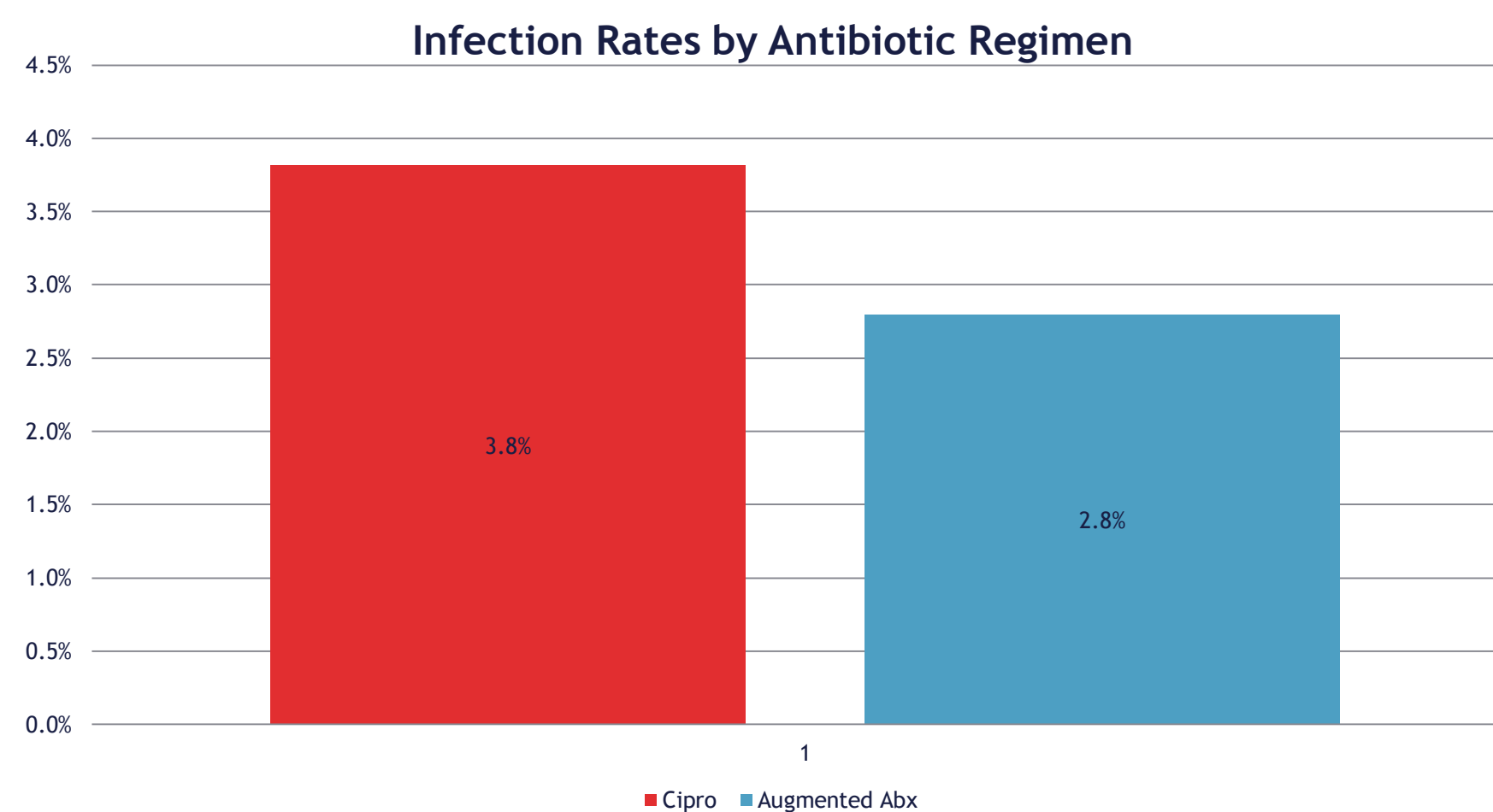


**Figure 1.** Graph comparing infection rates in those who underwent pre-biopsy rectal swab, and those who did not. P = 0.89, Chi Square = 0.02, 95% CI

## Materials and Methods

Demographics		Immunocompromised		
		Total	55	20.1%
Age Range	43-86	Swab	4	7.3%
Median Age	65	w/o Swab	51	92.7%
Total # Patients	274	Infection		
Rectal Swab		Total	9	3.3%
Swab	30	10.9% Swab	0	0.0%
No Swab	244	89.1% w/o Swab	9	3.7%
Resistant Cultures		Rate of Infection by Antibiotic		
FQ resistant	7	23.3% Cipro Only	5/131	3.8%
No Resistance	23	76.7% Augmented	4/143	2.8%

- Retrospective study of a cohort of 274 males between age 43-86, undergoing Transrectal Ultrasound (TRUS) guided Prostate Biopsy between 8/2016 to 3/2017
- Post-biopsy infection defined as fever or confirmed urinary tract infection within 2 weeks of biopsy
- Cohort was also subdivided into groups receiving **standard** antibiotic prophylaxis with Ciprofloxacin or **augmented** antibiotic prophylaxis with Ciprofloxacin AND Ceftriaxone, Gentamicin, or Zosyn



**Figure 2.** Graph comparing rates of infection in patients who received Cipro only vs. those who received an augmented antibiotic regimen for pre-procedural prophylaxis. P = 0.64, Chi Square = 0.21, 95% CI

## Results

- 274 males ages 43-86 (median 65) underwent TRUS biopsy. 30 underwent pre-biopsy rectal swab, 0 infections. 9 patients without rectal swab cultures had post biopsy infections (3.7%). (Figure 1)
- 131 patients received standard antibiotic regimen, 5 had post biopsy infection (3.8%). 143 patients received augmented antibiotic regimen, 4 had post biopsy infection (2.8%). (Figure 2)

## Conclusions & Limitations

- A trend toward decreased infection rates in augmented prophylaxis as compared to fluoroquinolones alone
- Retrospective data collection on a small sample size
- Lack of standardized antibiotic prophylaxis protocol

## Future Implementation

- Standardized rectal swab and pre-procedural prophylaxis protocol
- Prospective data collection and cost benefit analysis of rectal swab-guided prophylaxis vs. standard prophylaxis regimen