INTRODUCTION

- Urogenital infections with GC/CT have been associated with complications like pelvic inflammatory disease (PID), tubal infertility, ectopic pregnancy and chronic pelvic pain (1).
- Women engaging in unprotected anal intercourse (AI) are at risk for rectal GC/CT (2).
- While there are clear guidelines for screening women for urogenital GC/CT, the same is not true for rectal GC/CT (3).
- Reported prevalence estimates of rectal GC/CT in women range from 0.64 –19.2% for rectal GC and 2 – 54.3% for rectal CT (4-10).
- Studies have shown that some women who screen positive for rectal GC/CT are negative at urogenital sites (5,7,9,12,14-16).
- The goals of the present study and analysis were the following: 1. Determine the prevalence of rectal GC/CT among women seen at an urban sexual health clinic (SHC) and who reported any AI in the previous 12 months. 2. Characterize the behavioral, demographic, and clinical factors that correlated with rectal GC/CT in this female population.

MATERIALS & METHODS

Study Design, Setting and Population

- Retrospective review of all medical charts of females seen at an urban SHC in Columbus, OH between August 2012 and June 2013 and who underwent testing for rectal GC/CT.
- No exclusion criteria were applied.

STI Testing

- One rectal swab for GC was collected from each female patient who reported engaging in AI in the previous 12 months.
- Swabs were analyzed using nucleic acid amplification testing (NAAT) (APTIMA Combo 2 Assay with TIGRIS DTS, Gen-Probe, San Diego, CA; 2010. Available at: http://www.gen-probe.com/pdfs/pi/502183-EN-RevA.pdf).
- All women were also screened for urogenital GC/CT by NAAT on urine specimens.

Data Extraction

- Demographic, sexual behavior, and clinical data were extracted from individual patient electronic health records.

Statistical Analysis

- Data analysis was performed using Stata 13 (College Station, TX).
- We computed the prevalence and 95% confidence intervals (CIs) for rectal GC, CT, and either infection.

RESULTS

Concordance Between Urogenital & Rectal STIs

- Prevalence of urogenital infections was similar to the prevalence of rectal infections:
  - 24 women (7%, 95% CI: 4-10%) were positive for urogenital GC
  - 43 women (13%, 95% CI: 9-16%) were positive for urogenital CT
- Correlation between rectal and urogenital GC/CT was strong: 0.79 for GC and 0.85 for CT (Table 1).

<table>
<thead>
<tr>
<th></th>
<th>N (%)</th>
<th>Rectal</th>
<th>N (%)</th>
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<tbody>
<tr>
<td></td>
<td>Positive</td>
<td>Negative</td>
<td>Positive</td>
</tr>
<tr>
<td><strong>Gonorrhea</strong></td>
<td>18 (66)</td>
<td>3 (14)</td>
<td>6 (2)</td>
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<td></td>
<td><strong>Chlamydia</strong></td>
<td></td>
<td></td>
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<tr>
<td>Positive</td>
<td>38 (69)</td>
<td></td>
<td>6 (14)</td>
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</tbody>
</table>

- 7 women with rectal CT and GC did not have urogenital testing done, and 1 woman had indeterminate rectal GC infection. Results, so total "N" for Table 2 is lower than site-specific prevalence.

- 3 women (14%) with rectal GC were negative for urogenital GC.
- 6 women (14%) with rectal CT were negative for urogenital CT.

Unadjusted Associations Between Participant Demographic & Behavioral Characteristics & Prevalent Rectal STIs

- Several sexual behaviors in the previous 12 months emerged as significant predictors of prevalent rectal GC:
  - Sex with an injection drug user (PR: 6.99, 95% CI: 1.25-38.96)
  - Sex with a person who exchanges sex for drugs or money (PR: 6.81, 95% CI: 1.86-24.97)
  - Sex with an anonymous partner (PR: 3.08, 95% CI: 1.08-8.81)
  - Sex while using drugs or alcohol (PR:5.99, 95% CI: 1.25-26.69)
- Only age < 26 years was significantly associated with prevalent rectal CT (PR: 4.94, 95% CI: 2.53-9.62).

Adjusted Associations Between Participant Demographic & Behavioral Characteristics & Prevalent Rectal STIs

- No variables remained significantly associated with prevalent rectal GC.
- A trend of increased rectal GC prevalence was suggested for both women < 26 years of age (p=0.08) and those reporting sex while using drugs or alcohol (p=0.05).
- Only age < 26 years was significantly predictive of prevalent rectal CT (PR: 6.03, 95% CI: 2.29-15.90).

CONCLUSIONS

- Nearly 1 in 5 women (19%) who reported AI in the previous 12 months had rectal GC and/or CT infection.
- Urogenital screening alone missed 14% of rectal GC or CT infections.
- The great majority of rectal GC/CT infections in women were completely asymptomatic.

- Standardized guidelines would increase rectal GC/CT screening in women and help detect infections that are currently being missed.

REFERENCES


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