While azithromycin is the most used treatment, microbiological treatment failure in rectal CT is common and its drivers remain unclear.

Methods This study is part of a prospective multicentre cohort study (FemCure). Current analyses included 112 women clinically-diagnosed (by nucleic acid amplification test [NAAT]) with rectal and vaginal CT, who not vomited and denied rectal and vaginal unprotected sex. Four weeks after azithromycin treatment (1g single dose) participants self-collected vaginal and rectal samples. Samples were tested for CT-DNA (NAAT) and viable CT-load (viability polymerase chain reaction [V-PCR]). We evaluated two endpoints: (1) failure by NAAT-positivity and (2) failure by V-PCR-positivity. Enrolment-risk-factors associated with failure were assessed using multivariable logistic regression; i.e., age, education, migratory-background, previous CT, NAAT Ct-value [marker CT-DNA load], culture, viable CT [V-PCR positive], viable load [log$_{10}$ copies/ml], vaginal CT.

Results (1) Failure by NAAT (21.4%; 24/112) was independently associated with both rectal and vaginal NAAT Ct-values; both aOR: 0.8 per unit decrease in the NAAT Ct-value (95% CI:0.7–0.9, p<0.01). Of the 49 women with a rectal or vaginal Ct-value ≥36 at clinic-diagnosis (43.8% of patients), 8.1% had rectal failure, compared to 31.7% when having Ct values ≤36 (p<0.01). (2) Failure by V-PCR (16.1%;18/112) was independently associated with the rectal viable load; aOR: 1.7 per log$_{10}$ copies/ml increase (95%CI:1.3–2.3). Of the 47 (42.0%) women without a viable rectal CT at diagnosis, 4.3% had failure, compared to 24.6% when having viable rectal CT at diagnosis (p<0.01). Vaginal failure by NAAT was 7.1% (8/112); failure by V-PCR was 2.7% (3/112).

Conclusion In an outpatient clinical setting, azithromycin rectal CT microbiological treatment failure was common and associated with higher pre-treatment (viable) loads. The lower azithromycin treatment failure in patients with NAAT Ct-values≥36 or non-viable rectal CT might result in different treatment choices.

Disclosure No significant relationships.

Factors associated with anorectal Chlamydia or gonorrhoea test positivity in women – a systematic review and meta-analysis

Background There has been considerable discussion about anorectal Chlamydia trachomatis (CT) in women, but little about anorectal Neisseria gonorrhoeae (NG). This systematic review and meta-analysis investigates whether anorectal CT in women is associated with detection at other sites (urogenital, oropharyngeal) or anal intercourse and compares this with anorectal NG in the same populations.

Methods Electronic databases EMBASE, MEDLINE and PUBMED were searched for English-language studies published to October 2018 using the search terms: (“Chlamydia” OR “Chlamydia trachomatis”) AND (“vaginal” OR “rectal” OR “anorectal”) OR (“extra-genital” OR “multi-site”). Studies were included if anorectal NG data were available. The primary outcomes, CT and NG positivity, were measured as the proportion of those tested who were test positive. Prevalence ratios (PR) were calculated for the association of anorectal CT or NG with detection at other sites or anal intercourse. Random effects meta-analyses were used to calculate summary estimates; heterogeneity was investigated using meta-regression.

Results 25 studies were eligible. Anorectal CT positivity ranged from 0% to 17.5% with a summary estimate of 8.2% (95% CI: 7.2, 9.2; I²=86.4%). Anorectal NG positivity ranged from 0% to 17.0% with a summary estimate of 2.2% (95% CI: 1.6, 2.8; I²=92.6%). The association between urogenital and anorectal positivity was stronger for NG than CT (PR=82.2 [95% CI: 50.0, 140.9; I²=80.4%], PR=29.7 [95% CI: 23.8, 37.1; I²=64.6%], respectively). Anal intercourse was associated with anorectal NG (PR=4.3; 95% CI: 2.18, 8.55; I²=0.0%) but not anorectal CT (PR=1.0; 95% CI: 0.71, 1.4; I²=0.0%).

Conclusion Discussion in the literature has focused on anorectal STIs and not on relationships with anal intercourse. Longitudinal data are required to further understanding of the etiology of anorectal STIs and to inform whether anorectal screening is needed in women.

Disclosure No significant relationships.

Association of symptoms with viable vaginal or rectal Chlamydia trachomatis load: multicenter cohort study (FemCure)

Background Symptoms have been associated with Chlamydia trachomatis (CT) infections in culture-based studies, in contrast to studies based on nucleic acid amplification tests (NAAT). This may be because NAAT also detect non-viable bacteria. As culturing techniques are insensitive, we developed a sensitive polymerase chain reaction (V-PCR) technique to measure the viable bacterial load. We here assess the association between symptoms and viable load in 524 women with vaginal or rectal CT.

Methods Prior to treatment at three STI clinics, we included NAAT-CT-positive adult women (n=411 vaginal and rectal CT; n=88 only vaginal CT; n=25 only rectal CT), who were negative for HIV, syphilis and Neisseria gonorrhoeae (Netherlands, 2016–2017; FemCure). We assessed the viable rectal and vaginal load (log_{10} CT/ml) using V-PCR. We present the mean viable load (range 0 [non-viable] to 6.5) and tested associations with vaginal symptoms (coital lower abdominal pain, coital blood loss, intermenstrual bleeding, altered discharge, painful or frequent micturition) and rectal symptoms (discharge, pain, blood loss), using multivariable regression techniques adjusting for age and educational level.

Results Of 499 vaginal CT NAAT-positive women, mean viable load was 3.5 log_{10} CT/ml (SD: 1.6). Vaginal symptoms were reported by 50.3% (n=251) of women; women reporting any vaginal symptoms had higher vaginal viable load (mean 3.6 log_{10} CT/ml) than women without symptoms (mean 3.3 log_{10} CT/ml) (B=0.35, p=0.012) (mainly due to ‘altered discharge’). Of 436 rectal CT NAAT-positive women mean viable load was 2.2 log_{10} CT/ml (SD: 2.0); rectal symptoms were reported by 4.8% (n=21) and not associated with rectal viable load.

Conclusion In an outpatient clinical setting, women diagnosed with vaginal CT have a higher viable load when they have symptoms. Yet, the difference is quite small (0.3 log_{10} CT/ml) and is therefore unlikely to have a major impact on clinical patient management in women.

Disclosure No significant relationships.