Lymphogranuloma Venereum Among Men Who Have Sex With Men: 7 Versus 21 Days Doxycycline Effectiveness

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BACKGROUND

-Current guidelines on treatment of symptomatic lymphogranuloma venereum (LGV) caused by *Chlamydia trachomatis* serovars L1-3 recommend 21 days of doxycycline (DOXY).
-Preliminary findings support DOXY short-course antibiotic treatment for LGV [1-2].
-The aim of this study is to evaluate the clinical and microbiologic cure of LGV after 7 or 21 days of DOXY among people with symptomatic or asymptomatic infection.

METHODS

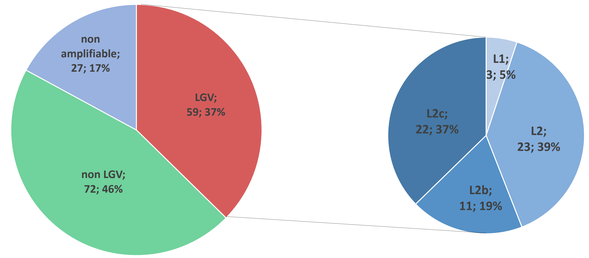
-Retrospective study on men who have sex with men (MSM) in care at the Infectious Diseases Unit of IRCCS San Raffaele Scientific Institute, Milan, Italy.
-People diagnosed with rectal or urethral *Chlamydia trachomatis* between 2015 and 2022 were included.
-Presence of symptoms was defined as reported: discharge, dysuria, urgency, or pain (urethral); discharge, pain, tenesmus, constipation, diarrhea, or bleeding (rectal).
-MSM were treated with 7 or 21 days of DOXY according to referring physician choice.
-Nucleic acid amplification test (NAAT) with sequencing serovar determination was used.
-Only individuals with available sequencing results were considered.
-Only people with available *Chlamydia trachomatis* test of cure (TOC) after treatment were included, which was performed according to clinical practice.
-Microbiologic cure (MC) after DOXY treatment was defined as having a negative TOC (eradication), or a positive TOC with a different *Chlamydia trachomatis* genotype (re-infection).
-Proportions of MC according to presence of symptoms and treatment durations were compared using exact binomial test.
-Comparisons were performed either including (counted as failure of cure; worst scenario) or excluding (exclusion scenario) samples with positive TOC with non-amplifiable sequencing.

RESULTS

-Overall, 158 MSM were included: 59 (37%) had LGV, 72 (46%) non-LGV *Chlamydia trachomatis* infection and 27 (17%) *Chlamydia trachomatis* infection with non-amplifiable sequencing results.
-Detected LGV serovars in Figure 1.
-Among people with LGV, rectal infection was detected in 56 (95%) people, urethral in 1 (2%), and concomitant rectal and urethral infections in 2 (3%).
-People with symptomatic LGV were 45 (76%): 44 with rectal infection and 1 with urethral.
-Overall, 23 (40%) received 7 days of DOXY and 36 (60%) 21 days, according to physician choice.
-Median age was 40 (IQR=34-48) years; 95% MSM were Caucasian, 3% Hispanic, and 2% Caribbean.
-PLWH were 53 (90%), with a median $CD4^+$ lymphocytes count of 759 cells/μL (IQR=622-930) at time of LGV diagnosis.
-Median time to TOC was 0.66 (IQR=0.3-1.4) years since LGV diagnosis. No difference in time to TOC was found when comparing people treated with 7 or 21 days of DOXY among both symptomatic (0.81, 0.56-1.21 vs 0.97, 0.26 vs 1.80, p=0.960) and asymptomatic cases (0.26, 0.18-0.29 vs 1.26, 0.34-2.07, p=0.203).

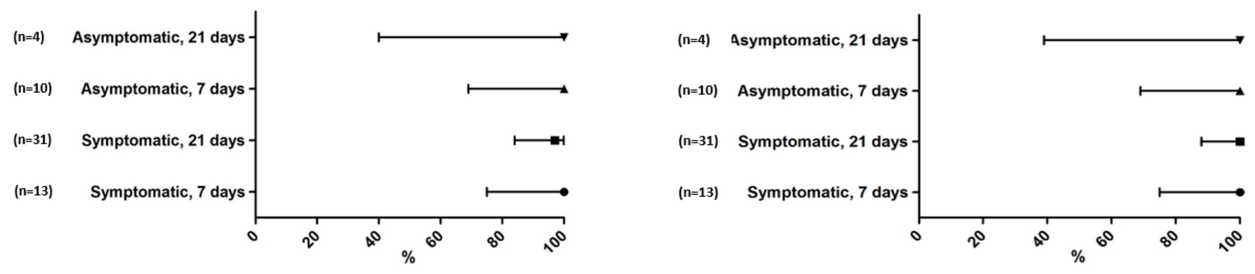
-All symptomatic MSM were clinically cured, with observed resolution of symptoms after treatment with DOXY regardless of duration.
-Microbiologic cure (MC) occurred in 58 people (98%): 90% had a negative TOC and 8% had a non-LGV *Chlamydia trachomatis* re-infection at time of TOC.

Figure 1. *Chlamydia trachomatis* serovars.



-Proportions of MC among MSM with LGV, according to presence or absence of symptoms, who received 7 or 21 days of DOXY treatment is shown in Figure 2.
-In the exclusion scenario, 100% MC was found among MSM with LGV, either symptomatic or asymptomatic, treated with 7 and 21 days of DOXY.
-In the worst scenario, no significant effect of treatment duration on %MC was found among symptomatic MSM with LGV (100% vs 97%, p=0.99)
-In the worst scenario, 100% MC was observed among asymptomatic MSM treated with 7 and 21 days of DOXY.
-No significant differences of %MC was observed between LGV and non-LGV infections in both scenarios either among symptomatic (worst scenario: 100%MC *vs* 88%, p=0.62; exclusion scenario: 100%MC *vs* 100%) or asymptomatic people (worst scenario: 100%MC *vs* 81%, p=0.32; exclusion scenario: 100% *vs* 94%, p=0.99) treated with 7 days of DOXY.

Figure 2. Proportions of MC among MSM with LGV, according to presence or absence of symptoms, who received 7 or 21 days of DOXY treatment.



CONCLUSIONS

Among MSM with LGV or non-LGV *Chlamydia trachomatis* infection, comparable clinical and microbiologic cure proportions were found after 7 or 21 days of DOXY, regardless of presence of symptoms.
These data support the use of DOXY short treatment course for *Chlamydia trachomatis* treatment.

REFERENCES

1. Simons R, *et al*. Observed Treatment Responses to Short-Course Doxycycline Therapy for Rectal Lymphogranuloma Venereum in Men Who Have Sex With Men. Sex Transm Dis. 2018.
2. Blanco JL, *et al*. Effective Treatment of Lymphogranuloma venereum Proctitis With Azithromycin. Clin Infect Dis. 2021.

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