

# Systematic review and meta-analysis of the treatment efficacy of doxycycline for rectal lymphogranuloma venereum in men who have sex with men

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## Introduction

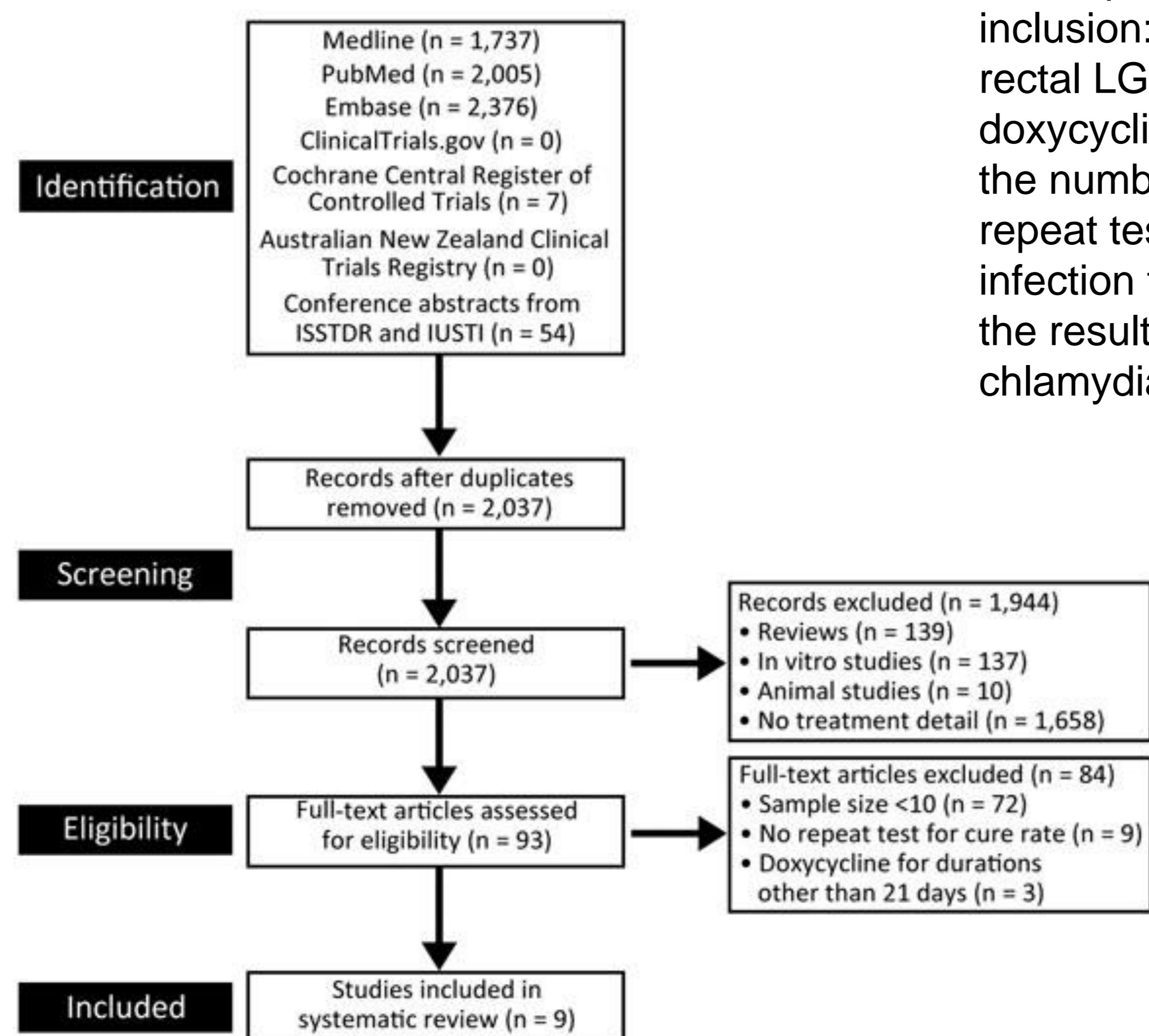
- Rectal lymphogranuloma venereum (LGV) has re-emerged as a sexually transmitted infection among men who have sex with men (MSM) particularly those who are living with HIV.
- We undertook a systematic review and meta-analysis to determine the efficacy of doxycycline 100 mg twice daily for 21 days for rectal LGV in MSM.

## Methods

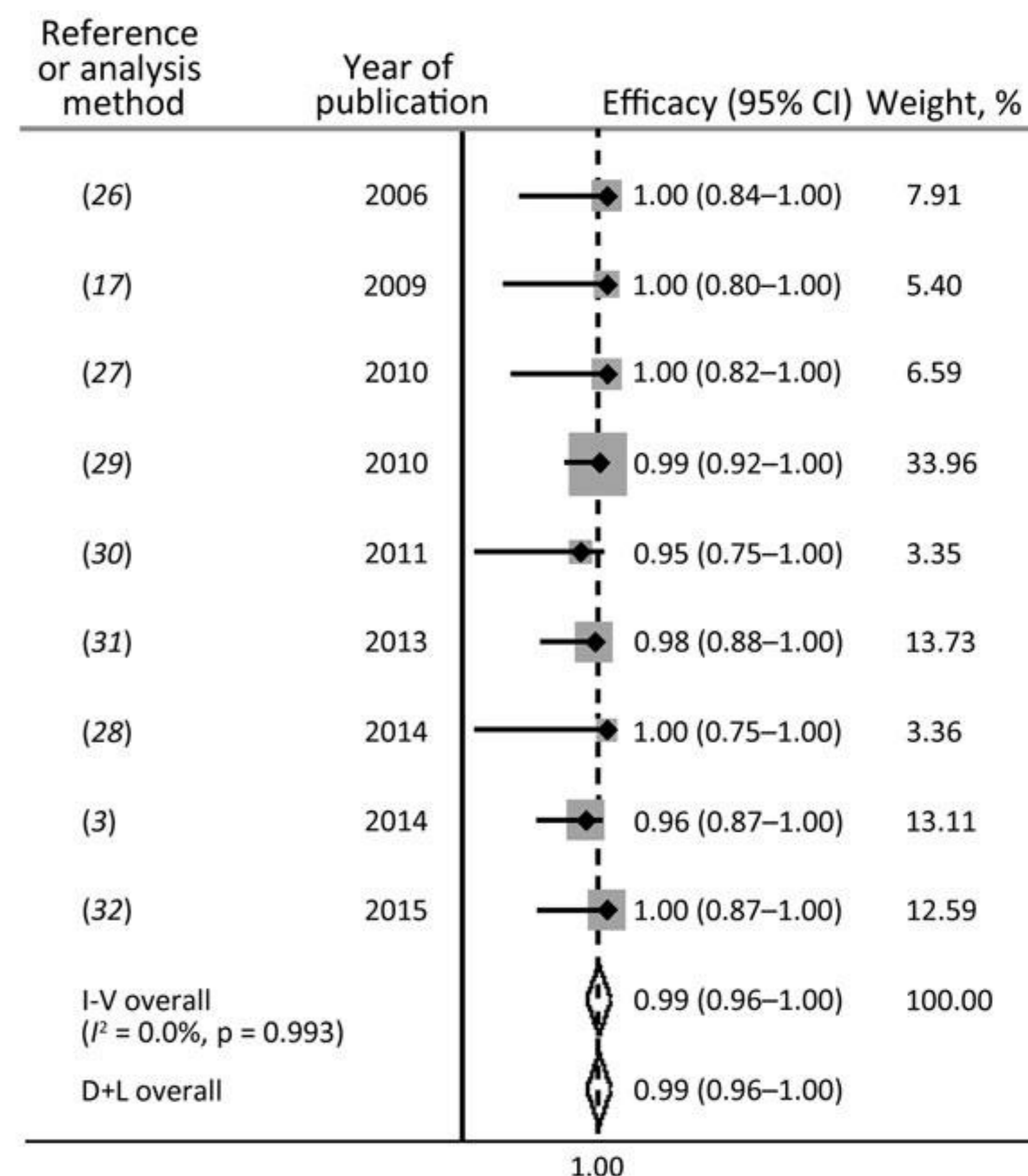
- Six electronic bibliographic databases (Medline, Embase, PubMed, ClinicalTrials.gov, Cochrane Central Register of Controlled Trials, and the Australian New Zealand Clinical Trials Registry) were searched for studies from 1940 to February 2016.
- We used the following search terms: “lymphogranuloma venereum” or “LGV” or “lymphogranuloma venereum” and “treatment” or “LGV and treatment.” Medical subject headings (MeSH) were used where possible. To capture all relevant articles, we did not restrict the search strategy specifically to doxycycline or rectal LGV.
- We required the following data for study inclusion: 1) the number of MSM with rectal LGV treated with 100 mg doxycycline twice daily for 21 days; 2) the number of these men who had repeat testing for rectal chlamydia infection following this treatment; and 3) the results of repeat testing for rectal chlamydia infection.

## Results

- Nine studies were included: four were prospective, four were retrospective, and one a combination of these. In total, 282 MSM with rectal LGV were included for doxycycline efficacy. Please refer to the publication below for the specific studies identified.
- All studies reported using nucleic acid amplification tests to assess microbial cure.
- The majority of patients (> 80%) had symptomatic rectal infection.
- The fixed-effects pooled efficacy for doxycycline was 98.5% (95% CI 96.3–100%,  $I^2 = 0\%$ ;  $p = 0.993$ ).



**Figure 1.** Studies reporting microbial cure after doxycycline treatment (100 mg 2 × /d for 21 d) of rectal lymphogranuloma venereum in men who have sex with men. ISSTDR, International Society for Sexually Transmitted Diseases Research; IUSTI, International Union against Sexually Transmitted Infections.



**Figure 2.** Efficacy of doxycycline (100 mg 2 × /d for 21 d) for treatment of rectal lymphogranuloma venereum infection in men who have sex with men. I-V, inverse-variance (fixed) method; D+L, DerSimonian and Laird (random-effects) method;  $I^2$ , test for heterogeneity.

## Conclusions

Doxycycline 100 mg twice daily for 21 days demonstrated a high microbial cure rate. This systematic review and meta-analysis supports doxycycline at this dose and duration as first line therapy for rectal LGV in MSM.

### For more information see:

Leeyaphan C, Ong J, Chow EPF, Kong FYS, Hocking JS, Bissessor M, Fairley CK, Chen M. Treatment efficacy of doxycycline for rectal lymphogranuloma venereum in men who have sex with men: a systematic review and meta-analysis. *Emerging Infectious Diseases* Oct 2016, 22(10).

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