

Doxycycline vs. Penicillin G Benzathine for the Treatment of Syphilis in Patients with HIV



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BACKGROUND

- Syphilis is an infection which can be transmitted through sexual intercourse, perinatally, or by coming into contact with a syphilitic chancre
- The untreated disease can progress to various stages over time and is caused by the spirochete *Treponema pallidum*
- Syphilis is associated with an enhanced risk of acquiring HIV, so appropriate treatment is important for both patients with and without concurrent HIV infection
- Historically, penicillin G benzathine has been the primary agent used to treat syphilis infections, with doxycycline being an alternative agent for patients who cannot tolerate penicillin antibiotics
- The efficacy of doxycycline in treating syphilis in patients with HIV has not been well documented despite its use as an alternative treatment

OBJECTIVES

- Compare the effectiveness of doxycycline in treating syphilis in the HIV population against the traditional penicillin G benzathine
- Assess appropriateness of therapy for both syphilis and other STIs (sexually transmitted infections)
- Identify commonly reported adverse effects to either agent used to treat syphilis

END POINTS

Primary Endpoint:

- Resolution of syphilis infection

Secondary Endpoints:

- Presence of co-infection
- Reported adverse reactions to treatment

METHODS & PRELIMINARY OUTCOMES

This study was conducted as a retrospective chart review consisting of a cohort of patients in which resolution of syphilis infections using penicillin G benzathine or doxycycline will be assessed

Inclusion Criteria

- Age \geq 18 years
- Diagnosed with HIV
- Diagnosis of new or recurrent syphilis
- Documented prescription for doxycycline or penicillin G benzathine

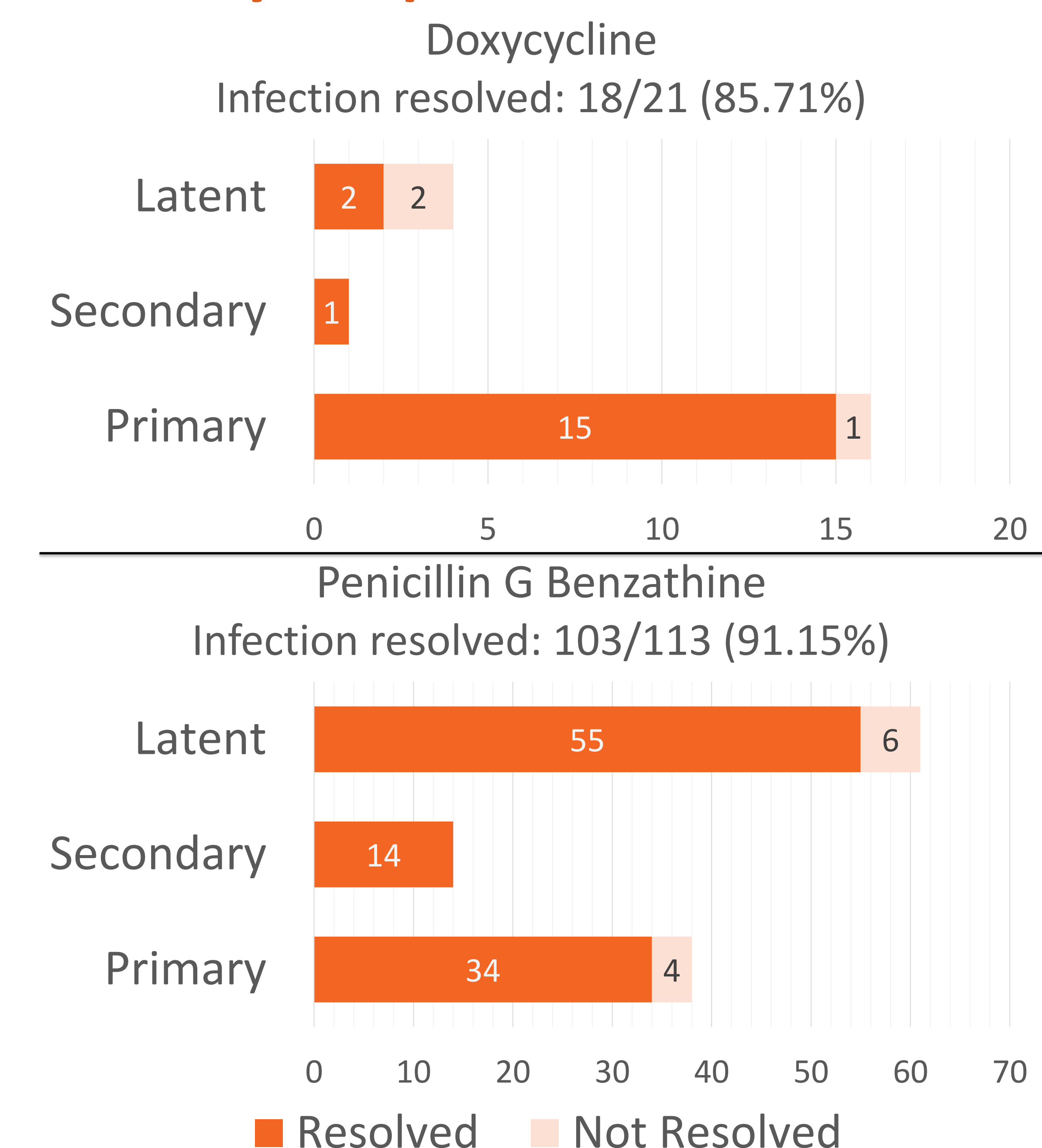
Exclusion Criteria

- Neurosyphilis at time of treatment
- Pregnant patients
- Age < 18 years
- Insufficient data to determine treatment response (i.e. no repeat RPR)

Sample Size



Primary Endpoint



Data Collected/Analyzed:

- Gender
- Age
- Race
- Renal function (serum creatinine) at time of treatment
- Allergies to antibiotics with reaction type
- Diagnosed stage of syphilis
- Prescribed antibiotic
- Dose, duration, and route of antibiotic
- HIV viral RNA count
- CD4 count
- Co-infection with other STI
- Presence of opportunistic infection prophylaxis
- MSM status
- Transgender status
- Reported adverse effects
- Initial infection vs. re-infection
- Re-infection vs. incomplete initial treatment
- Active treatment for HIV

Secondary Endpoints

Presence of Co-infection	
Doxycycline	Penicillin G Benzathine
Human Papillomavirus (n=1)	Chlamydia (n=3)
Gonorrhea (n=2)	Gonorrhea (n=6)
Hepatitis C (n=2)	Hepatitis C (n=2)
	Herpes (n=4)
Reported Adverse Reactions to Treatment	
Doxycycline	Penicillin G Benzathine
Diarrhea reported in 1 case	Nausea reported in 1 case

CONCLUSIONS & DISCUSSION

- This study is ongoing
- Data analysis is currently in progress
- Penicillin G benzathine group larger than doxycycline group likely due to it being the standard of care
- Resolution of infection occurred in less patients in the doxycycline arm than in the penicillin G benzathine arm
- Difficult to confidently interpret findings due to treatment groups dissimilar in number and infection type
- Co-infection not common among either group and appeared to show no correlation to treatment success
- Adverse effects to treatment rarely reported in chart

NEXT STEPS

- Complete data analysis
- Plan to review findings with internal medicine physicians and residents
- Further studies needed to determine if doxycycline is truly inferior to penicillin G benzathine

DISCLOSURES

No authors of this presentation have anything to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.

REFERENCES

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