

Syphilis Profile in Individuals on Post-Exposure Prophylaxis with Doxycycline (Doxy PEP)

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Rosario Palacios, María López-Jódar, Salvador Martín-Cortés, Andrea Polo, Isabel Pérez-Hernández, Isabel Viciano¹, Cristina Gómez-Ayerbe, Jesús Santos

Infectious Diseases Unit and ¹Microbiología Service, Hospital Universitario Virgen de la Victoria, IBIMA, Málaga, Spain

BACKGROUND and OBJECTIVE

- > One limitation of post-exposure prophylaxis with doxycycline (doxy-PEP) for sexually transmitted infections (STI) is its potential to alter the serological diagnosis of syphilis in infected individuals
- > Our objective was to analyze the characteristics of syphilis cases diagnosed in individuals enrolled in a Doxy PEP program.

PATIENTS and METHODS

- > **Study design:** retrospective, unicenter study.
- > **Study period:** March 2023 to June 2024.
- > **Population:** subjects from our cohorts of PrEP users and PLHIV enrolled in a Doxy-PEP program, with similar inclusion criteria as those of DOXIVAC and DoxiPEP clinical trials.
- > **STI screening:** all subjects were screened every 3-6 months and whenever they had symptoms
- > **Syphilis diagnosis:** commonly accepted criteria.
- > **Adherence to doxy-PEP:** poor if <1 pill a week, and regular if <2 pills a week.

RESULTS

- > Subjects in Doxy-PEP 240
- > Syphilis cases 6 (prevalence rate 2.5%, CI95% 0.52-4.48%).
- > Characteristics of Syphilis cases are shows on Table 1
 - All were MSM, 5 on PrEP and 1 PLHIV. Four had a history of previous syphilis.
 - Baseline RPR, at initiation of Doxy PEP: 5 negative and 1 at 1/4.
 - Presentation: 2 cases of secondary syphilis, and 4 were latent syphilis with minimal RPR increase.
 - Adherence to doxycycline was poor or regular in 3 cases
 - Response to syphilis treatment: subjects responded well to a single dose of benzathine penicillin G, with RPR negativization in all cases

Table 1: Characteristics of syphilis cases

Case	Age	PEP Date	Syphilis Date	Prior RPR	Syphilis RPR	Clinical	Other STIs	Adherence	Response
1	41	05/10/23	08/04/23	Neg	1/8	Latent	NG	Regular	Yes
2	34	05/18/23	08/10/23	1/4	1/32	Latent	No	Poor	Yes
3	37	06/28/23	08/08/23	Neg	1/4	Latent	No	Regular	Yes
4	44	07/07/23	04/12/24	Neg	1/4	Secondary	NG	Good	Yes
5	49	07/02/23	02/22/24	Neg	1/2	Primary*	No	Good	Yes
6	47	08/01/23	11/30/23	Neg	1/8	Latent	No	Good	Yes

*Cutaneous lesions and genital chancre with positive PCR assay for TP

RPR: tests nontreponemal: *Rapid plasma reagin*

PCR: *Polymerase Chain Reaction*

TP: *Treponema pallidum*

NG: *Neisseria gonorrhoeae*

CONCLUSIONS

- ❖ In real-world settings, the prevalence rate of syphilis in individuals in a Doxy PEP program is low.
- ❖ Most cases are asymptomatic, and the minimal RPR elevation is notable.
- ❖ Response to benzathine penicillin G is adequate.
- ❖ Proper adherence to doxycycline may be a key factor in reducing the incidence of syphilis.

REFERENCES

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