

The Characteristics Of Syphilis Reinfections Among Patients Attending A Melbourne Clinic Over A 12-Year Period

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Background

Syphilis is increasing in a number of high- and middle-income countries. Syphilis reinfections are common, including among people living with HIV (PLWH) and those taking HIV Pre-exposure-Prophylaxis (PrEP). We characterised syphilis re-infections among individuals diagnosed over a 12-year period.

Methods

This was a retrospective study of patients with two or more syphilis infections between 2011 and 2022 at Melbourne Sexual Health Centre. Patients with risk factors or symptoms were routinely tested with syphilis serology and lesions swabbed for *Treponema pallidum* PCR.

Results

474 patients, 98% men who have sex with men (MSM), had a total of 1,327 syphilis infections. 357 (27%) had primary syphilis, 279 (21%) secondary syphilis, and 640 (48%) with early latent syphilis. 240 patients (51%) had 2 infections, 139 (29%) 3 infections, 58 (12%) 4 infections, 28 (6%) 5 infections, and 9 (2%) had ≥6 infections.

The proportion of PLWH increased with each subsequent infection, from 190/474, (40%) of first infections, to 29/37 (78%) of cases at the time of the fifth infection.

The proportion of early latent syphilis cases increased, and the proportion with primary or secondary syphilis decreased, with reinfection, from 37%, 31% and 22% for the first infection to 78%, 16% and 5% for the fifth infection, respectively.

The median duration between first and second infections, and between second and third infections, were 656 days (IQR 325-1262) and 656 days (IQR 352-1114)

respectively. The median duration between first and second infections was lower among PrEP-users 341 vs 656 days ($p < 0.0001$).

Conclusion

Syphilis reinfections are common. The median period between infections was similar across all groups except those currently using PrEP, who had a significantly shorter period between infections. The increase in asymptomatic syphilis with subsequent reinfections may be related to immune responses, more frequent screening, or a combination of these.

Disclosure of interest statement

We declare no competing interests.

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