

MULTIPLEX PCR TESTING OF ANOGENITAL LESIONS FOR *TREPONEMA PALLIDUM* AND HERPES SIMPLEX VIRUS IN PRIMARY CARE IMPROVES THE DETECTION OF PRIMARY SYPHILIS

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Background:

Syphilis epidemics are worsening in many countries and earlier diagnosis is needed to reduce infectiousness and transmission. Better detection of primary syphilis is needed in primary care settings as this is where many syphilis cases present. The aim of this study was to evaluate whether the use of multiplex PCR testing of anogenital lesions for *Treponema pallidum* and herpes simplex virus (HSV) in general practice improves the detection of primary syphilis.

Methods:

Between 1st September 2022 and 27th November 2023, multiplex PlexPCR VHS (SpeeDx) testing for *T. pallidum* and HSV type-1 and -2 was performed on all clinical specimens received from general practitioners across Victoria using the Melbourne Pathology laboratory network if HSV PCR testing of anogenital lesions was requested in a patient aged ≥18, even if *T. pallidum* PCR was not requested. Multiplex PCR was also performed if testing for other STIs or *T. pallidum* PCR was requested.

Results:

7,084 multiplex tests were performed, 4,733 in women and 2,351 in men, 86 of these were positive for *T. pallidum*. Of the positive *T. pallidum* samples 22/86 (26%) (95%CI: 17-36%), were from patients where the practitioner had requested PCR for HSV but not *T. pallidum*: 6 female and 16 male. Among the 6 females, all swabs were from genital sites. Among the 16 males, 13 were penile sites, one oral, one anal and one multisite (anal and penile). Two males were coinfecting with both HSV and *T. pallidum*. Eight individuals (3 females, 5 males) resided in socioeconomically disadvantaged areas known to have higher rates of syphilis in women of reproductive age.

Conclusion:

Multiplex PCR testing for syphilis and herpes in primary care resulted in the detection of primary syphilis which may have otherwise not been identified.

Disclosure of Interest Statement:

Speedx provided the PlexPCR VHS (Speedx) testing kits used in this study. No industry funding was received.