non-specific reactivity on HIV Western blot. Specificity and NPV for the antibody component was 99.5% (99.0–99.7) and 99.9% (99.6–
100.0) and for the antigen component was 99.8% (99.4–99.9) and
99.6% (99.1–99.8), respectively.

Conclusion Antibody and antigen component specificity was con-
sistent with the rapid test package insert; whereas sensitivity was
lower, notably in those with recent infections. Hence, identifying
patients at risk of recent infection is vital so that conventional labo-
ral serology is performed. A formal assessment of test perfor-
ance in seroconverters is warranted.

O15.5 PERFORMANCE CHARACTERISTICS OF SD BIO LINE
RAPID HIV-SYPHILIS DUO TEST KIT FOR SIMULTANEOUS
DETECTION OF HIV AND SYPHILIS INFECTIONS


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Background Human immunodeficiency virus (HIV) and Treco-
moma pallidum share modes of transmission. Congenital syphilis is a
significant cause of stillbirth, prenatal death and serious neonatal
infections. We sought to evaluate rapid test kit for HIV-syphilis dual
detection to improve diagnosis and enable accurate management
towards achieving the renewed zeal of eradicating syphilis and con-
genital syphilis.

Methods Six hundred and eighty serum specimens from HIV dis-
cordant couples in a clinical trial, tested for syphilis infection by
RPR with reactive specimens confirmed by TPHA, were used for this
evaluation. HIV status was determined by Uni-Gold™ and Determine™ HIV rapid kits and all positive samples confirmed by
two HIV Enzyme immunoassay test. These specimens were blindly
retested using the HIV-Syphilis Duo kit.

Results Of 698 samples evaluated 139 (20%) were RPR positive
and 346 (50%) were HIV positive. Among the RPR positive, 85
(61%) were TPHA positive. None of 559 RPR negative samples
tested syphilis positive on HIV-Syphilis Duo kits. Of the 85 RPR
positive-TPHA positive samples, none tested syphilis negative on
the HIV-Syphilis Duo kit. All RPR positive-TPHA negative samples
tested syphilis negative on the HIV-Syphilis Duo kit. Sensitivity and
specificity was: both 100% for syphilis detection and; 99.71%
and 100% respectively for HIV detection. On this sample set the
Specificity of Determine™ and Uni-Gold™ was 96.82% and 98.27%
and the HIV-Syphilis Duo kit detected 5 early HIV infections that
were missed out by Determine™ and Uni-Gold™ at least one month
prior to a seroconversion visit.

Conclusion HIV-Syphilis DUO test kit performed better com-
pared to RPR for syphilis and Determine™ for HIV detection. It was
equivalent to TPHA for syphilis and Uni-Gold™ for HIV detection.
Its implementation in antenatal clinics/VCTs will present an added
opportunity for simultaneous diagnosis of HIV and syphilis.

O15.6 MOLECULAR SURVEILLANCE OF NEISSERIA GONORRHOEAE
PENICILLIN RESISTANCE: INFORMING EMPIRIC
PRESCRIBING POLICY IN WESTERN AUSTRALIA


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Against the worldwide trend, there remain populations in the
remote regions of Western Australia (WA) where the efficacy rates
for penicillin may be above the World Health Organisation (WHO)
95% guideline for N. gonorrhoea drug selection. Oral amoxicillin (3g)
with probenecid (1g) is used empirically in these regions. The
majority of gonorrhoea diagnoses in our laboratory are performed
by PCR with culture-based antimicrobial resistance surveillance
limited by the lack of a representative number of isolates. We there-
fore implemented a world-first comprehensive molecular gonococ-
cal surveillance of penicillin resistance in our remote populations.

We tested all N. gonorrhoeae-PCR positive cases from August 2011
to July 2012 (n = 1235) using a PCR assay targeting the penicillinase-
producing N. gonorrhoeae (PPNG). This represented approximately
60% of the 2092 notified WA gonorrhoea cases but 91% of cases from
the remote regions. Of these regions, the Kimberley PPNG rate
was 0.7%, the Pilbara 4.0%, the Goldfields 10.5%, and the Mid West
0% compared to Perth, the state capital city with 12.8–16.5%. When
adjustments were made for chromosomal-mediated penicillin resis-
tance (additional 3.4%), the Kimberley and Mid West regions
remained below the 5% WHO resistance threshold for penicillin. In
addition, a review of the Pilbara and Goldfields regions found PPNG
only in the major regional centres.

Based on this data, continuation of amoxicillin with probenecid in
the Kimberley region with its reintroduction into the Mid West
was recommended. In the Pilbara and Goldfields amoxicillin with
probenecid could be continued in remote communities but empiric
therapy in the regional centres and of non-locals should employ
intramuscular ceftriaxone therapy, as for other parts of WA. Our
study shows that molecular surveillance of gonococcal anticrob-
bial resistance directly from clinical specimens is feasible and could
be extended to include other targets conferring resistance to other
antibiotics such as ceftriaxone.