

The Use of Additional Rapid HIV Tests on Whole-Blood Increases the Predictive Value of Rapid Oral-Fluid HIV Testing

<i>Abstract Category:</i>	Applications of Point of Care Strategies Using Combinations of Rapid Tests
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OBJECTIVE

To distinguish true positive results from false positive results when using the OQA on oral-fluid samples by performing additional rapid HIV tests on whole-blood.

METHODS

At the Highland Hospital emergency department, screening for HIV is routine and rapid testing is performed using the OQA test on oral-fluid. Patients with reactive OQA tests underwent three additional rapid tests in parallel on whole-blood specimens (Unigold Recombigen®, Clearview Stat-Pak, and OQA) in addition to confirmatory Western blot (WB) testing. Using the WB as the gold standard, the results of the multiple rapid tests on whole-blood were compared with those of oral-fluid testing to determine the influence on the PPV.

RESULTS

Over an eight month period, 7,340 patients were tested using the OQA on oral-fluid and 51 (0.7%) were reactive. In 38 of the patients with reactive oral-fluid tests, all additional whole-blood rapid tests were reactive and confirmed WB positive. In 12 of the 51 patients, all additional rapid tests were non-reactive and were WB negative (2) or indeterminate (10). Two of the indeterminate WBs had gp41 band reactivity and most others had reactivity not corresponding to specific viral proteins; subsequent IFA testing was negative. In one patient with a reactive oral OQA test, the additional rapid tests were discordant (whole-blood OQA and Stat-Pak reactive and Uni-Gold non-reactive). This patient had an indeterminate WB, showing reactivity to only the p55 band. Viral load and repeat WB at 3 months was negative. The PPV of oral OQA testing was 75%; the PPV of concordant oral OQA testing and additional whole-blood tests was 100%.

CONCLUSIONS

Additional rapid tests on whole-blood correctly identified all true positives (concordant reactive oral and whole-blood specimens) and all but one false positive (discordant results between reactive oral and non-reactive whole-blood specimens).