Abstract #58

Increasing the Predictive Value of Clinic-Based Rapid HIV Antibody Screening Using Oral Fluid and Whole-Blood Rapid Testing in 10 Publicly-funded Sexually Transmitted Disease Clinics, New York City, 2006-2007

Abstract Category:	Application of Point of Care Strategies Using Combinations of Rapid Tests
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PROJECT

Between December 2005 and September 2007, The New York City Department of Health and Mental Hygiene (NYCDOHMH) Bureau of Sexually Transmitted Disease Control (BSTDC) performed 97,653 oral fluid (OF) rapid HIV antibody tests (OraQuick Advance HIV-1/2) in 10 sexually transmitted disease (STD) clinics. After observing a decline in OQ test specificity in late 2005, BSTDC instituted a new testing algorithm including an on-site whole-blood OraQuick rapid test for preliminary-positive OF test results. Western Blot (WB) was used to confirm all preliminary-positive specimens.

ISSUES

We compared results from rapid tests performed on oral fluid and whole-blood to WB results in order to evaluate the utility of our algorithm.

RESULTS

During the evaluation period, BSTDC performed 97,653 OF tests. Of these tests, 1,171 (1.2%) were preliminary-positive. Whole-blood OQ tests gave concordant (preliminary-positive) results for 83.2% (678/815 tests) of preliminary-positive OF samples subjected to the additional test. WB tests were positive in 96.5% of preliminary-positive whole-blood tests submitted for confirmation (654/678 WB tests). Of the 137 discordant (whole-blood negative) rapid tests submitted for WB testing, one was positive (0.73%). Overall, 82.4% (655/795) of samples that had two rapid tests were WB positive. Almost a quarter (23.5%) of preliminary-positive OF tests (275/1171) did not have whole-blood OQ retesting, although they did have WB testing. Among these, 97.8% (265/271) were WB positive.

LESSONS LEARNED

The increased positive predictive value of follow-up whole-blood rapid testing suggests that the revised testing algorithm is appropriate. The availability of painless OF tests has increased patient demand, while the subsequent whole-blood tests for preliminary-positive OF samples reduces the risk of false-positive results. Together, the use of two rapid tests in this way is more successful than the use of either test alone. The failure to implement the complete algorithm in 23.5% of instances could be the result a number of factors; it is not yet clear why these instances were more likely to be confirmed by WB. At this time data do not permit evaluation of finger-stick test sensitivity or specificity because only preliminary-positive oral specimens are subject to additional testing.