

ACUTE HIV INFECTION (AHI) DETECTION: RAPID 4TH GENERATION TEST OR RAPID MOLECULAR POINT-OF-CARE HIV TEST?



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BACKGROUND

AHI is defined by the presence of p24 Ag and/or HIV-RNA in the absence of HIV Ab¹¹. Standard 3rd generation tests do not detect AHI. High HIV incidence [2.8%]¹² and prevalence [17.1%]¹³ estimates in Portuguese men who have sex with men (MSM) and regular HIV testing [7 months between visits]¹⁴, peer counselor training for AHI syndrome recognition, rapid linkage to care (< 72 hours) and access to anonymous partner notification¹⁵ at CheckpointLX (community-based sexual health centre for MSM) increase the possibility of finding AHI cases¹⁶. This study aims to compare two screening algorithms for AHI detection at CheckpointLX.

METHODS

Between November 2016 to November 2017 (enrolment \bar{x} =9.5 months), adult MSM were tested with a combined rapid Ag/Ab test (algorithm 1, AlereTMHIV Combo¹⁷) and all adult MSM with AHI syndrome OR reactive Ag/Ab test OR whose sexual partner was diagnosed with HIV at CheckpointLX in the prior 6 weeks were tested with rapid molecular HIV-RNA test (algorithm 2, AlereTMq HIV-1/2 Detect¹⁸). All cases were assessed for CD4 cells count (AlereTMPima¹⁹) and linked to care (< 48 hours).

RESULTS

Algorithm 1- 0% AHI detected [0 in 2890 tests, 88 reactive: 1 for Ag[confirmed negative]; 1 for Ab/Ag[confirmed positive]; 86 for Ab[4 confirmed negative]; 5 for Ag[all confirmed negative] were not considered due to be part of faulty lots, according to manufacturer notice].

Algorithm 2- 0.87% [1 in 115 tests - 27 non-reactive rapid Ag/Ab tests[1 confirmed positive], 1 for Ab/Ag[confirmed positive], 1 for Ag[confirmed negative], 86 for Ab[4 confirmed negative, 9 refusals to onsite confirmation]].

12% of people confirmed positive were linked to care earlier due to CD4 count <250 cells/mm³.

6.33% of people were confirmed negative.

CONCLUSIONS

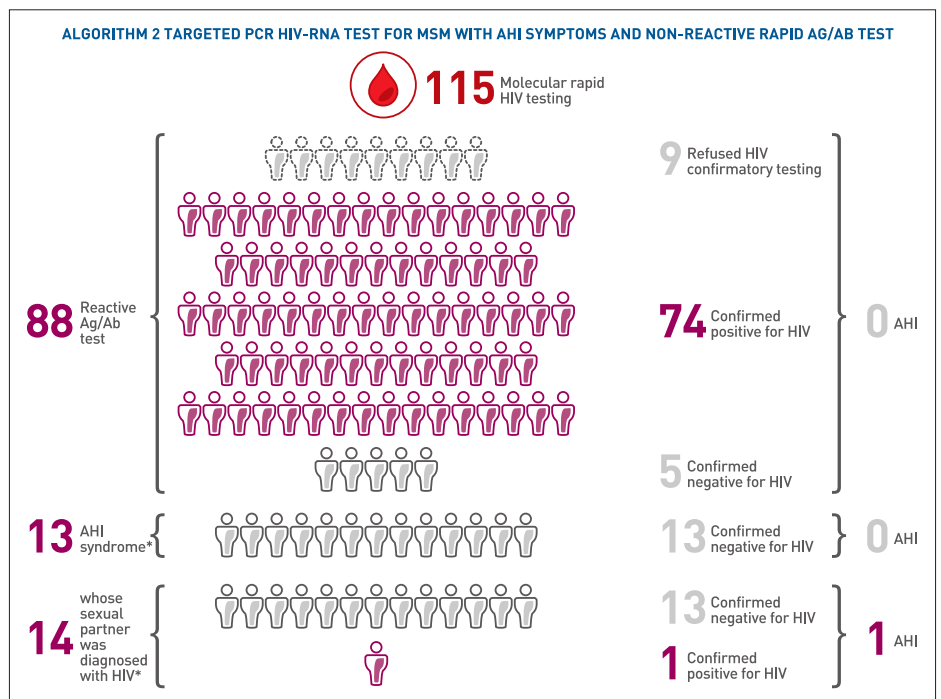
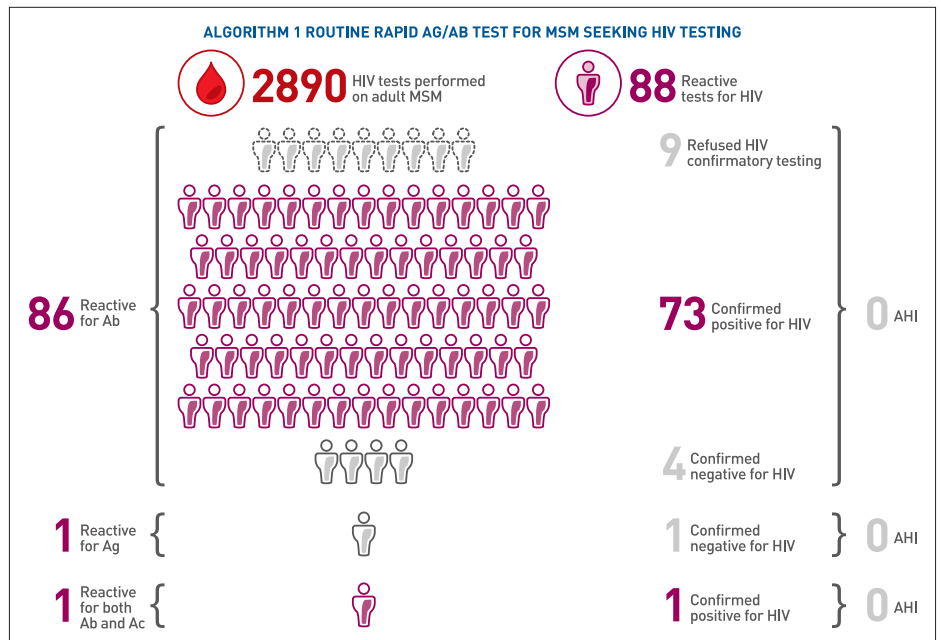
4th generation tests did not add value in AHI detection. Targeted molecular HIV-RNA allowed AHI detection and spared clients from unnecessary medical appointments and anxiety when reactive tests were confirmed negative immediately. Onsite confirmation reduced the lag time between a reactive test and diagnosis from 6 weeks to 1 hour. Onsite CD4 count enabled priority referrals when immunosuppression was found. HIV testing centers screening algorithms can benefit from onsite HIV-RNA and CD4 count POC technologies.

REFERENCES AND LEGENDS

- [1] EACS Guidelines version 9.0, October 2017.
- [2] Meireles P, Lucas R, Carvalho C, Furtado R, Brito J, Campos M J, Mendao L, Barros H, Incident risk factors as predictors of HIV seroconversion in the Lisbon cohort of men who have sex with men: first results, 2011-2014, Euro Surveill. 2015;20(14):pii=21091. <https://doi.org/10.2807/1560-7917.ES2015.20.14.21091>
- [3] The Sialon II Project, Report on a Bio-behavioural Survey among MSM in 13 European cities, ISBN 978-88-98768-55-4 Cierre Grafica, 2016.
- [4] http://www.checkpointlx.com/public/uploads/posters/2016/05_Checkout_AIDS2016.pdf
- [5] http://www.checkpointlx.com/public/uploads/posters/2016/06_CheckpointLX_AIDS2016.pdf
- [6] <https://ensur.inmed.com/ensur/broker/ensurbroker.aspx?code=120001736&cs=26729868>
- [7] <https://www.alere.com/en/home/product-details/alere-q-hiv-12-detect.html>
- [8] <https://www.alere.com/en/home/product-details/PimaAnalyserOUs.html>

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Funding entity



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