

PERFORMANCE OF ANTI-HCV, HBsAg AND ANTI-HBc TESTING IN DRIED BLOOD SPOT AND SALIVA ACCORDING HIV STATUS.

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BACKGROUND

HIV coinfection prevalence is high in HBV+ and HCV+ and leading to increased morbidity and mortality. The use of saliva and dry blood spot (DBS) facilitates the access to hepatitis diagnosis [1, 2, 3 and 4].

The objective of this study is to evaluate methods for diagnosis of HBV and HCV in saliva and DBS according to the presence of HIV.

METHODS

Serum, saliva and DBS samples were collected from study subjects recruited from different outpatient clinics in the state of Rio de Janeiro. Six groups (HIV+, HCV+, HBV+, HIV/HCV+, HIV/HBV+ and negative controls) were included to evaluate the performance of HBsAg, anti-HBc and anti-HCV. It was used optimized commercially enzyme immunoassays (EIA) and results compared to serum

RESULTS

Anti-HCV detection test in DBS and saliva presented specificities between 81.7 to 100% and sensitivities from 83.3 to 95.6% according to the group. Considering only HCV-RNA+ serum samples in HCV+ group, sensitivities increased from 93.9 to 98.3% in DBS and from 95 to 100% in saliva. Among HIV/HCV+, there was 83.3% to 91.6% in DBS and from 95.6 to 94.8% in saliva. HBsAg detection in saliva and DBS showed sensitivities of 62% to 91% and specificities of 77.5% to 99%. Anti-HBc detection in saliva and DBS had sensitivities of 47 to 90.5% and specificities of 86 to 100%.

Table 3– Results of commercial EIA HCV modified for detection in saliva and DBS according to the status of HCV and HIV.

Grups	Specificities	Sensitivities	Grups	Specificities	Sensitivities
	saliva	saliva		DBS	DBS
HCV+ (n=159)	**	94.9%	HCV+ (n=230)	**	93.9%
HIV+ (n=146)	91.7%	**	HIV+ (n=147)	98.6%	**
Negative controls (n=46)	96.5%	**	Negative controls (n=99)	100%	**
HIV+/HCV+ (n=46)	**	95.6%	HIV+/HCV+ (n=48)	**	83.3%

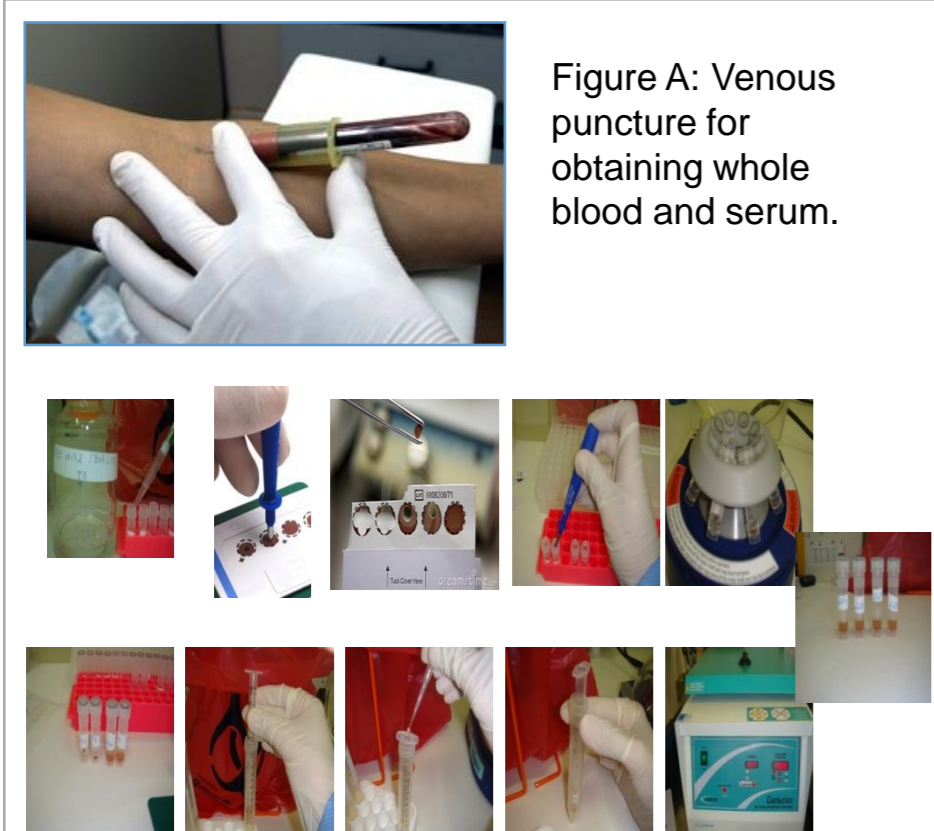


Figure A: Venous puncture for obtaining whole blood and serum.

Figure C: Saliva collection

RESULTS

Table 1– Results of commercial EIA anti-HBc modified for detection in saliva and DBS according to the status of HIV and HBV.

Grups	Specificities	Sensitivities	Specificities	Sensitivities
	saliva	saliva	DBS	DBS
HBV+ (n=74)	**	90.5%	**	77.3%
HIV+ (n=57)	98.2%	**	85.9%	**
Negative controls (n=40)	96.9%	**	100%	**
HIV+/HBV+ (n=17)	**	47%	**	76.4%

Table 3– Results of commercial EIA HCV modified for detection in saliva and DBS according to the status of HCV and HIV.

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HIV+/HCV+ (n=46)	**	95.6%	HIV+/HCV+ (n=48)	**	83.3%

CONCLUSIONS

The saliva and DBS can be used for the detection of anti-HCV regardless of HIV, mainly to identify HCV active infection. Tests for HBsAg and anti-HBc in saliva and DBS did not show high sensitivity in HIV+ The large majority of non-HBsAg and anti-HBc discordant tests in ART and Mossner in 2016 [5] suggested that this could influence the sensitivity of the test. The use of these samples without diagnosis of HBV needs to be better studied in population.

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THERE ARE NO CONFLICTS OF INTEREST

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