Applicability Of Urine Lam Tests In Advanced HIV Infected Adults In Ukraine

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BACKGROUND

- Tuberculosis (TB) remains the leading cause of death among HIV-infected adults in Ukraine.
- Urine lipoarabinomannan (LAM) antigen testing is a new rapid TB diagnostic that recently became available in Ukrainian health care institutions.
- We evaluated the diagnostic yield of urine LAM in adults with advanced. HIV-infection in four different regions throughout the country.

METHODS

- Between March-August 2019, 1770 conse-cutive HIV-infected patients presenting for routine follow-up visits had LAM testing performed
- Centres from four regions of Ukraine participated in the study:
  - Kyiv (North),
  - Odessa (South),
  - Dnipro (East)
  - Lviv (West).
- The inclusion criteria were: HIV+ individuals 18 and more years, with CD4 < 200 cells/mm3 and patients with clinically advanced HIV disease with any CD4 count, regardless of TB symptoms.
- The project was funded by All-Ukrainian Network of People Living with HIV/AIDS and implemented by Ukrainian National Public Health Center.

Conclusions

LAM urine test is useful as an add-on rapid diagnostic method in Ukraine for HIV patients with a CD4 of <200.

As sensitivity was satisfying, it might be viable tool for routine screening in resource limited settings with high TB prevalence and unequal health care access.

For accurate and quick diagnosis it should be used in combination with current golden standard of TB diagnostics.

	LAM	TB confirmation		
		Positive	Negative	Total
Frequency	Positive	400	42	**442**
Percent		43,57	4,58	**48,15**
Row %		90,5	9,5	
Column %		68,26	12,65	
Frequency	Negative	186	290	**476**
Percent		20,26	31,59	**51,85**
Row %		39,08	60,92	
Column %		31,74	87,35	
	Total	**586**	**332**	**918**
		63,83	**36,17**	**100**

RESULTS

- In total 918 patients were included in analysis with confirmatory TB tests by chest radiography, CT and/or bacteriological methods. 852 patients were excluded because ongoing TB evaluation.
- Mean age of participants was 41.0 years, 56.9% were male, and the mean baseline CD4 count was 157 cells/mm3.
- We received 400 (43,57%) positive LAM results with a confirmed TB diagnosis, while TB was not confirmed in 42 (4.58%) patients with a positive LAM test. . 186 (26.26%) patients had confirmed TB while LAM test was negative. Both LAM testing and TB evaluation was negative in 290 (31,59%) patients.
- TB prevalence in the sample was 63.83%. Sensitivity of LAM tests - 68.26%, Specificity – 87.35%. Positive predictive value - 90.5%. Negative predictive value – 60.92%. Kappa provides an estimate of moderate agreement (0.5083), p-value <.0001, 95% CI=0.46, 0.56.

ADDITIONAL KEY INFORMATION

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