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HIV and Viral Hepatitis: Challenges of Timely Testing and Care

Challenges in the definition of 'Late presentation to HIV testing'

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OBJECTIVES

In 2011 a consensus was reached defining 'late presenters' (LP) as individuals presenting for care with a CD4 count <350 cells/mm3 or presenting with an AIDS-defining event, regardless of the CD4 count. This definition is broadly used in HIV surveillance to evaluate the prevalence and determinants of LP. However, it has been shown that a transient low CD4 count is not uncommon in recent infections. The objective of this study is to estimate how measurements of 'LP' change if the clinical stage at the time of diagnosis is taken into account.

METHODS

Case surveillance data of newly diagnosed patients in Belgium in 1998–2012 were analyzed, including CD4 at diagnosis, presence of AIDS-defining events and recent infections (<6 months) reported by clinicians in case of acute illness or recent negative test. First, proportions of LP were calculated according to the common definition. Secondly, LP based on CD4 count <350 cells/mm3 were reclassified as 'non-late' if a recent infection was reported by clinicians.

RESULTS

7949 HIV-diagnosed individuals were included in the analysis of which 38.4% were Belgians, 43.2% Sub-Saharan Africans, 10.3% Europeans and 8.2% from other nationalities. 64% of included individuals were male, 54.4% were heterosexuals and 33.8% MSM.
Recent infections were increasingly reported over time, accounting for 8.2% of all new infections in 1998 and 37.5% in 2012 (Fig. 1). Among MSM: 15.7% and 56.3% were recent infections in 1998 and 2012 respectively.
The inclusion of clinical stage in the definition significantly decreased the proportion of LP: 33.0% of patients diagnosed in 2012 would be considered as LP vs. 42.4% using the common definition, and 18.2% of MSM diagnosed in 2012 would be considered as LP vs 31.0% ($p<0.001$). Among heterosexuals , 44.5% would be considered as LP vs 51.3% using the common definition (NS). (Fig. 2).

Figure 1: Clinical stage at HIV diagnosis

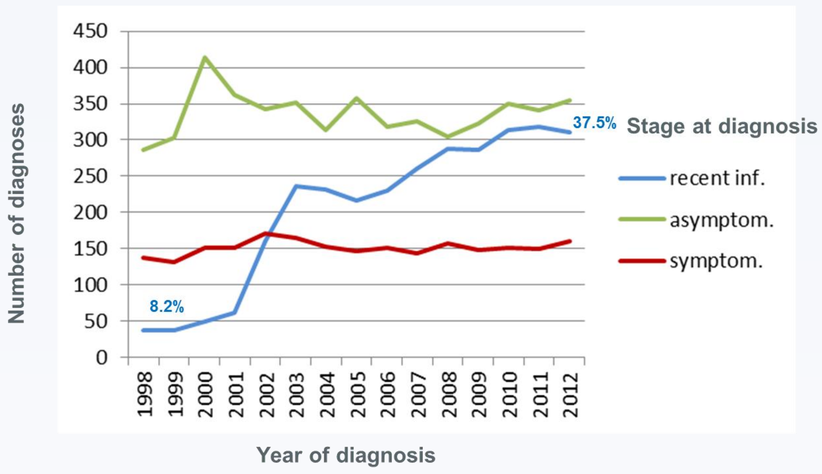
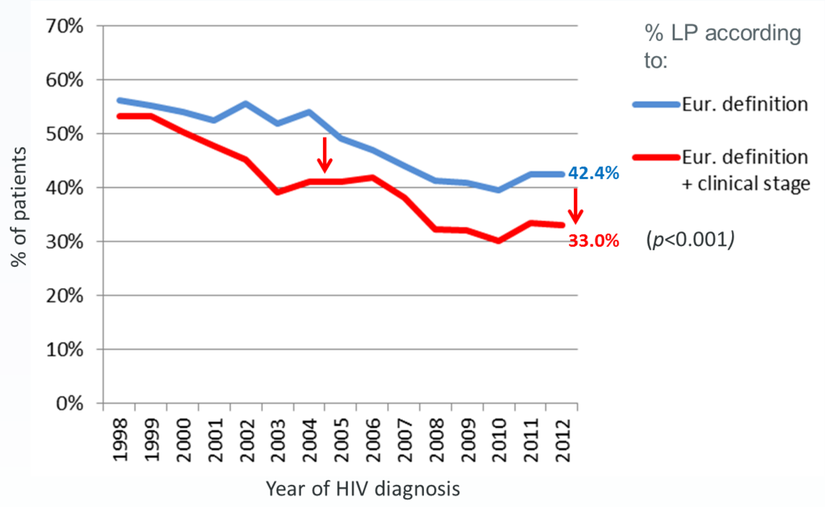


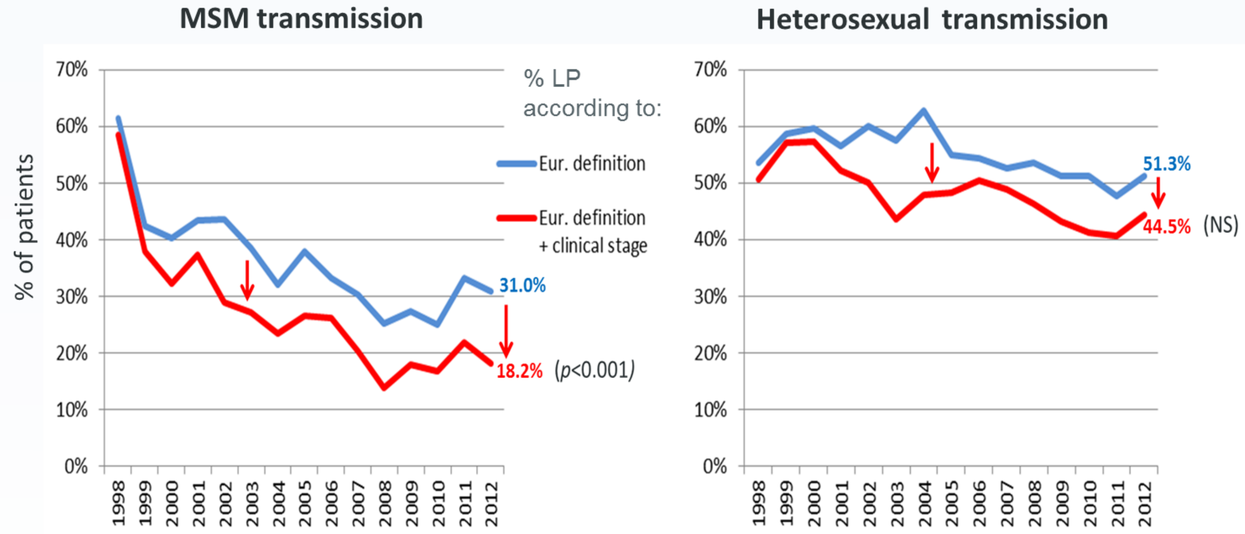
Table 1: Factors associated with reclassification LP => non-LP

	Study population	Reclassification as "non-LP"		
	Number (%)	% Reclassified	OR (95% CI)	Adjusted OR (95% CI)
Total patients	n=3467			
Gender				
Male	1640 (57.4)	20.1%	1.00	1.00
Female	1219 (42.6)	13.8%	**0.63 (0.53-0.76)***	1.13 (0.89-1.43)
Age at diagnosis	3467 (100)	17.5%	0.99 (0.99-1.00)	0.99 (0.98-0.99)
Risk category				
Heterosexual	2338 (67.4)	13.2%	1.00	1.00
MSM	875 (25.2)	29.8%	**2.76 (2.29-3.33)***	**2.52 (1.92-3.29)***
IDU	90 (2.6)	22.2%	1.85 (1.11-3.07)	1.94 (1.13-3.35)
Others	164 (4.7)	11.6%	0.89 (0.55-1.43)	0.85 (0.52-1.40)
Nationality				
Belgium	1080 (31.2)	24.6%	1.00	1.00
European	278 (8.0)	21.2%	0.80 (0.58-1.08)	0.77 (0.55-1.07)
Sub-Saharan	1821 (52.5)	13.2%	**0.47 (0.39-0.56)***	0.76 (0.58-0.98)
Others	288 (8.3)	14.6%	**0.53 (0.37-0.75)***	**0.52 (0.36-0.75)***
Year of diagnosis	3467 (100)	17.5%	**1.08 (1.06-1.10)***	**1.07 (1.05-1.10)***

***: *P*<0.001**

Figures 2: Reclassification of LP according to clinical stage





CONCLUSION

This study suggests that the possible drop in CD4 count in recent infections may lead to overestimating LP when applying the common definition.
The impact of transient CD4 count on LP estimates should be assessed, and, if relevant, the introduction of clinical stage in the LP definition should be considered.

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