Prevalence and predictors of Lymphogranuloma venereum in a high-risk population in Italy

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INTRODUCTION

Lymphogranuloma venereum (LGV) is a systemic sexually transmitted infection caused by *Chlamydia trachomatis* (CT) serovars L1-L3. Since 2003, a new outbreak of LGV has been described in men who have sex with men (MSM), suffering from an anorectal primitive syndrome, characterized by anal ulceration, anal pain and mucous or bloody discharge. Nucleic acid amplification techniques (NAATs) are the most sensitive tests for laboratory CT diagnosis. Final confirmation of LGV presence needs a specific molecular genotyping, but at present no commercial method is available.

In 2009, the European Centre for Disease Control (ECDC) reported 245 cases of LGV. Anyway, reporting is highly affected by screening programs and available diagnostics. The first Italian LGV case was observed in Milan in 2006 and until now only few cases of LGV proctitis have been described in Italy.

In this study we assess the LGV prevalence in a high-risk population attending a STI Outpatients Clinic of a University Hospital in the North of Italy.

MATERIALS AND METHODS

From January 2012 to April 2013, a total of 108 patients (99 MSM and 9 women), with a history of unsafe anal intercourses, were enrolled for the study. At clinical examination, the external genitalia, perianal skin and anal mucosa were evaluated for the presence of lesions and genital warts.

Anorectal and pharyngeal swabs as well as urine specimens underwent CT and *Neisseria gonorrhoeae* (GC) DNA detection by Versant CT/GC DNA 1.0 Assay (Siemens Healthcare Diagnostics). *omp1* gene semi-nested PCR followed by RFLP analysis was used for CT molecular typing of all the CT positive samples, using *AluI*, *DdeI* and *HinfI* (Promega) as restriction enzymes (Promega).

Finally, microbiological investigations for the main STDs (HIV, HCV, HBV and syphilis) were performed.

Analyses of the differences between the groups were performed with Chi-square test. Univariate and multiple logistic regression analyses were performed to evaluate the influence of the different variables on the outcomes. A P value <0.05 was considered significant.

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RESULTS
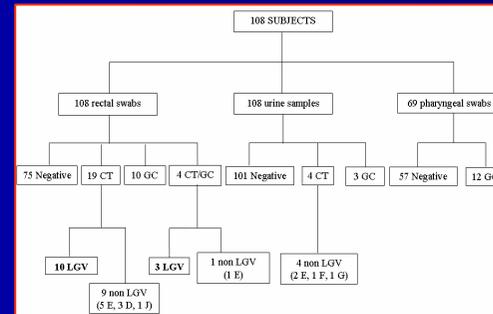
All LGV cases were from MSM, declaring high-risk sexual behaviour and complaining about various anorectal symptoms.
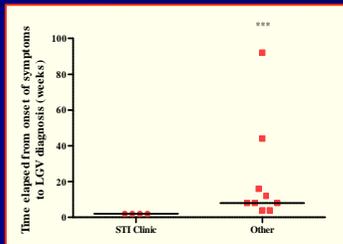
Misdiagnosis means no therapy or incorrect treatment, leading to persistence of symptoms or complications. If well recognized and treated, LGV proctitis usually heals with no sequelae.

	LGV negative N=95	LGV positive N=13	P value
Reported symptoms % (n)	20% (19)	100% (13)	<0.001
Mean age(±SD) (range)	34 yrs. (±9.5) (18-64)	43 yrs. (±6.3) (27-53)	0.0008
Anti-*Chlamydia* IgG AU/ml	11.8 (4-38)	60.4 (19-86)	<0.001
Presence of coinfection	47.3% (45)	92.3% (12)	0.0023

	Univariate analysis		Multivariate analysis	
	OR (CI 95%)	P value	OR (CI 95%)	P value
Age (yrs.)	1.11 (1.03-1.19)	0.003		
Presence of coinfections	13.33 (1.66-106.66)	0.014		
-HIV	19.12 (4.96-73.61)	<0.001	12.64 (3.00-53.25)	0.001
-Syphilis	11.10 (3.04-40.54)	<0.001	6.72 (1.58-28.45)	0.010
-HBV	13.62 (2.62-70.68)	0.002		

CONCLUSIONS

On the strength of our epidemiological and statistical results, a screening for LGV infection should be recommended to all HIV and/or syphilis-positive MSM complaining of anorectal symptoms. For this purpose, CT detection by Versant CT/GC 1.0 Assay, followed by RFLP analysis for molecular typing, demostrated to be an excellent diagnostic algorithm for LGV identification.