LYMPHOGRANULOMA VENEREUM: AN EMERGING PROBLEM IN HIV POSITIVE PATIENTS

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INTRODUCTION.

Lymphogranuloma venereum (LGV) is a sexually transmitted disease caused by serotypes L1, L2, L3 of Chlamydia trachomatis (CT).

Always considered an endemic disease in developing countries such as India and Africa, only in recent times we have witnessed its appearance in Western regions where LGV is endemic among men who have sex with men (MSM), mainly those co-infected with HIV. Worldwide, LGV is thought to account for 2–10% of genito-ulcerative disease.

The serotypes L, in contrast to the others, are considered more invasive and show a greater tropism for lymphoid tissue. The clinical manifestations of LGV vary according to the site of infection. The incubation period ranges from 1 to 4 weeks and the pathogen can be transmitted through unprotected intercourse of any kind (vaginal, anal, oral).

Depending on the site of inoculation LGV can cause inguinal disease (usually after inoculation of the genitalia), or the anorectal syndrome (usually after inoculation via the rectum). The disease course usually follows three separate stages: proctitis, inguinal stage, anogenitorectal syndrome (more often present in women). The LGV occurs up to 6 times more frequently in males than females.

In the recent outbreaks recorded in Europe and US, the infection is frequently associated with other STIs and more than 75% of patients are HIV positive.

Detection of infection often relies on screening because the majority of chlamydial infections are asymptomatic.

METHODS.

From January 2009 to October 2013, 1310 samples (anal, penis, genital muco-cutaneous swabs) collected from 1310 MSM patients, who attended the Sexually Transmitted Infections (STI) Clinic, Department of Infectious Diseases, University of Turin, were screened for the presence of *Chlamydia trachomatis* DNA (CT-DNA) .

CT-DNA positive samples were further analyzed for the presence of LGV strains with a LGV-specific homemade TaqMan real-time PCR assay for polymorphic membrane protein H gene (pmph gene) and, in case of positivity for LGV DNA, typed with a second real time PCR for the outer membrane protein I (OmpI) that differentiates L-serovars L1, L2 and L3.

DNA extractions were performed using NucliSens easyMAG semi-automated platform (BioMérieux, Firenze, Italy)

CT-DNA detection was performed with the COBAS® TaqMan® CT Test v2.0 (Roche, Branchburg, NJ USA).

Since June 2013, given the high prevalence of HIV positive patients with proctitis or anal symptoms, who tested positive to CT-LGV strains, HIV negative patients were analyzed only in case of strongly suggestive LGV disease of the genital area.

Patients	HIV NEG	HIV POS	TOT
LGV NEG	121	33	154
LGV POS	1	28	29
	122	61	183

Tab 1. Distribution of LGV reactivity according to HIV serostatus.

Year	LGV POS	LGV NEG	Tot samples analyzed for LGV
2009	3	17	20
2010	5	35	40
2011	10	51	61
2012	8	63	71
2013	5	36	41
	31	202	233

Tab 2. LGV DNA results in CT-DNA positive patients: distribution by year.

OBJECTIVES.

The aim of this study was to determine the prevalence of *Chlamydia trachomatis* LGV biovar, in a group of men who have sex with men, attending the Sexually Transmitted Infections outpatient clinic, Department of Infectious Diseases, Amedeo di Savoia Hospital in Turin, Italy.

RESULTS.

233 samples (222 anal, 8 urethral, 3 genital muco-cutaneous specimens), collected from 183/1310 (14%) MSM patients , resulted positive for CT-DNA and were further analyzed for suspected presence of LGV strains.

31/233 CT DNA positive samples resulted positive for LGV DNA, with a positive rate ranging from 12.2% to 16.4% (13.3% overall positivity) (Fig.1 and Tab.2).

122/183 were HIV-negative and 61 (33.3%) were HIV-positive. LGV was detected in 29/183 patients (15.8%) while 154/183 were LGV-negative (84.2%).

96.6% (28/29) of the LGV positive patients were HIV positive; only 1 patient was HIV negative (Tab.1).

Being HIV-positive was significantly associated with LGV infection in patients with CT-positive in genital and anal samples (chi square test 58.6, Fisher test p <0.0001). LGV typing showed the prevalence of LGV-L2 strain (89.6%). Anal symptoms were present in 97% of LGV-positive patients.

Since June 2013, given the high prevalence of HIV positive patients with proctitis or anal symptoms, positive to CT-LGV strains, HIV negative patients were analyzed only in strongly suggestive case of LGV disease in the genital area.

Treatment with Doxycicline was effective in all cases as demonstrated by a negative test of cure.

CONCLUSION.

Our study is in line with other experience in Europe pointing out how LGV is an emerging sexually transmitted infection in HIV-positive MSM. Despite the disease has been known for several years in European countries, nowadays LGV is still a hidden disease that affects vulnerable groups, and misdiagnosis or delayed diagnosis is common. Early diagnosis is very important because serious and permanent adverse *sequelae* may occur if LGV if left untreated. Antibiotic treatment is highly effective and most complications are preventable. Our results suggest that routine testing for LGV among HIV-positive MSM is highly recommended

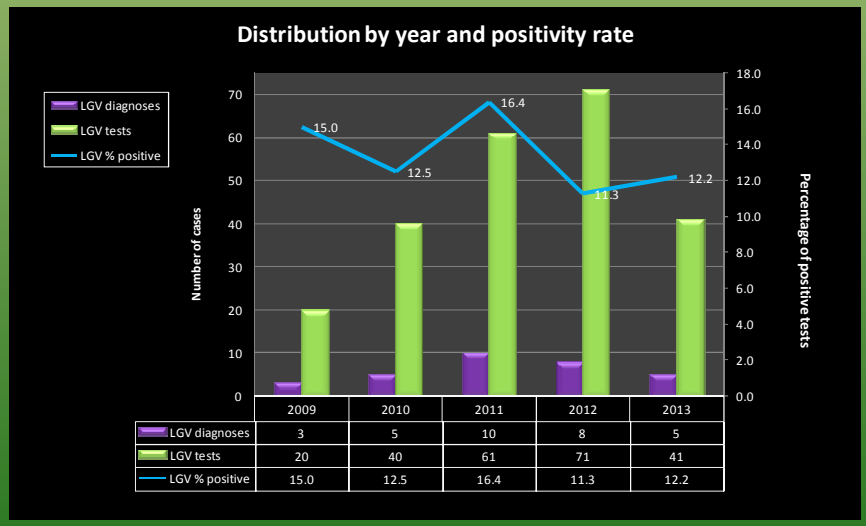

Figure 1. Distribution by year of LGV-suggestive cases in CT-DNA positive patients tested with LGV PCR and positivity rate.

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