

# Lymphogranuloma Venereum (LGV) Surveillance in Austria. A Pilot Project in Rectal Chlamydia Infections from 2015 to 2017

A. Stary<sup>1</sup>, K. Kreidl<sup>1</sup>, K. Pöcher<sup>1</sup>, G. Hughes<sup>2</sup>, M. Cole<sup>2</sup>, H. Schalk<sup>3</sup>

<sup>1</sup>Outpatients Centre for Diagnosis of Infectious Venero-dermatological Diseases, Vienna, <sup>2</sup>National Infection Service, Public Health England, London <sup>3</sup>Practice for General Medicine, Vienna

## BACKGROUND

Surveillance of Lymphogranuloma venereum (LGV) in Europe is co-ordinated by the European Centre for Disease Prevention and Control (ECDC). The number of reported cases has increased over the years, and the lack of appropriate diagnostics in many countries leads to a substantial under-diagnosis and under-reporting.

## AIM OF THE STUDY

Pilot study to investigate the prevalence and epidemiology of LGV in rectal *Chlamydia trachomatis* (CT) positive male samples in Austria.

## STUDY DESIGN

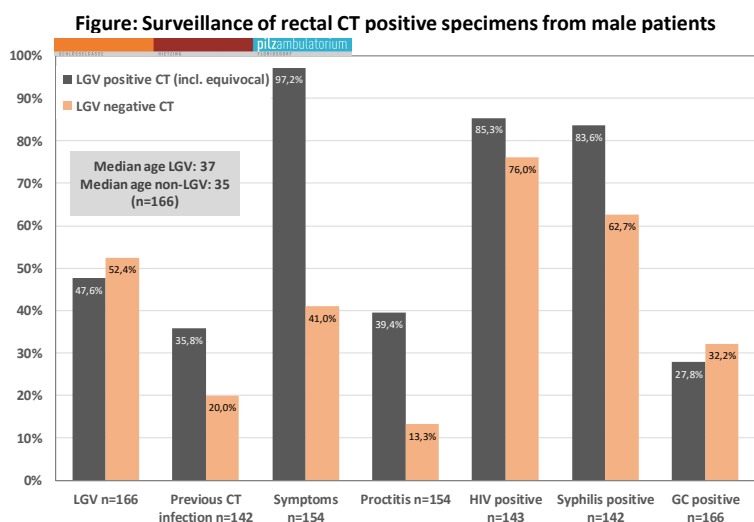
The ECDC funded study on rectal CT positive specimens from male patients was based in the Outpatients' Centre for Diagnosis of Infectious Venero-dermatological Diseases in Vienna. Samples were collected from October 2016 to March 2017 and stored specimens from the beginning of 2015 were additionally added.

## PATIENTS AND METHODS

In Austria, a total of 166 rectal CT positive specimens were analysed. Collected data such as age and NG coinfection were available for all individuals. Information on present clinical symptoms and additional sexually transmitted infections (STIs) such as HIV-status, previous syphilis and CT infections were reported for 82.5% of patients by the referring physician in Vienna.

CT and NG diagnosis was performed at the Outpatients' Centre of Vienna, using both the Aptima Combo 2 Assay on the Panther System (Hologic, Inc., USA) and the Abbott CT/GC Assay on the M2000 (Abbott, USA).

LGV analysis was conducted at the National Infection Service, Public Health England (PHE), London. An in-house multiplex real-time PCR targeting a 36 bp deletion of the polymorphic membrane protein H gene (*pmpH*) which is common to *C. trachomatis* LGV serovars L1, L2 & L3 was used. Further typing to identify the LGV genotype, by DNA sequencing of the *omp* gene, was undertaken



**Table 1: Symptoms and Coinfection rates in rectal CT positive specimens from male patients**

	Symptoms (n=154)	HIV status (n=143)	Previous Syphilis (n=142)	Previous CT inf (n=142)
LGV pos	69/71 (97.2%)	58/68 (85.3%)	56/67 (83.6%)	24/67 (35.8%)
LGV neg	34/83 (41.0%)	57/75 (76.0%)	47/75 (61.4%)	11/75 (20.0%)

**Table 2: Number of *ompA* genovar**

Sequence	L2	L2bV1	L2b	1 bp mutant L2	Mixed infection	Total
No. of genovar	48	16	5	1	1	71
Percentage	67.6%	22.5%	7.1%	1.4%	1.4%	

## RESULTS

Out of the 166 rectal specimens, included in the study, 47.6% (79/166) showed being infected with LGV.

The median age of men with LGV was 37 years compared to 35 years in those with non-LGV CT. Furthermore 27.8% of LGV CT positive patients suffered from an additional NG coinfection.

Additional data are shown in the Figure.

Five different *ompA* sequences were obtained from 71 of the 79 LGV specimens which were successfully sequenced. The most common genovar according to the *ompA* sequence was the classic L2 reference strain L2/434/Bu (67.6%; 48/71), followed by the L2bV1 *ompA* sequence (22.5%; 16/71) and then the L2b *ompA* sequence (7.1%; 5/71). One specimen's *ompA* sequence varied by one base pair to the L2 sequence at position A997G. The remaining patient had a mixed infection with L2bV1 and L2. (Table 2)

## DISCUSSION

A significant higher proportion of LGV positive patients had anorectal symptoms compared to LGV negative individuals. There was no difference in coinfections with STIs, although LGV positive patients tended to have a higher rate of HIV infections and previous syphilis and CT infections.

## CONCLUSION

The high number of LGV cases in CT positive rectal specimens in men demonstrates the need for LGV identification after chlamydia diagnosis in rectal swabs. Treatment recommendation for rectal chlamydia infection should consider a possible LGV infection if LGV typing is not available. Due to the high number of coinfections, screening for other STIs should be performed.

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