

Lymphogranuloma venereum in Australia

Ian Simms^{A,D}, Helen Ward^{A,C}, Iona Martin^A, Sarah Alexander^A and Catherine Ison^B

^AHIV and STI Department, Health Protection Agency Centre for Infections, London NW9 5EQ, UK.

^BSexually Transmitted Bacteria Reference Laboratory, Health Protection Agency Centre for Infections, London NW9 5ET, UK.

^CDepartment of Infectious Disease Epidemiology, Faculty of Medicine, Imperial College, London W2 1PG, UK.

^DCorresponding author. Email: ian.simms@hpa.org.uk

Abstract. Lymphogranuloma venereum (LGV), caused by *C. trachomatis* serovars L₁, L₂ and L₃, is an invasive disease capable of causing tissue destruction with many patients experiencing complex, severe symptoms. LGV, endemic to areas of Africa, Asia, South America and the Caribbean, has emerged as a cause of significant morbidity among men who have sex with men (MSM) in more affluent nations. The high prevalence of HIV in LGV cases could suggest either that LGV is confined to a dense sexual network, or that clinicians are selectively testing HIV-positive MSM for LGV. The increase in reported LGV cases highlights the need to improve sexual health overall among MSM; experience from the recent syphilis outbreaks suggests that control could prove difficult.

Reports from Europe and North America indicate that since 2003 the epidemiology of lymphogranuloma venereum (LGV) has changed. LGV, endemic to areas of Africa, Asia, South America and the Caribbean, has been rare in affluent nations for many years. However, LGV has now emerged as a cause of significant morbidity among men who have sex with men (MSM) in Western Europe and North America. In Europe, after a cluster of cases in MSM in Rotterdam, outbreaks were reported in Antwerp, Paris, London, Stockholm and Hamburg, together with case reports from Switzerland and Barcelona.^{1–9} Increased diagnoses of LGV emerged in the UK in 2004, and this rapidly became the largest outbreak identified in Europe. The characteristics of the European outbreaks are very similar: all have been concentrated in sexual networks of MSM; infection has been acquired primarily through unprotected anal intercourse, fisting and the use of sex toys with multiple anonymous sexual contacts at sex parties and sex-on-premises venues; and there have been high levels of concurrent infection with HIV, syphilis, gonorrhoea and hepatitis C. The North American outbreaks have similar characteristics to the European cases,^{10,11} as have the anorectal case report by Morton *et al.* in this issue of *Sexual Health*,¹² and the bubonic case reported in Australia in 2005.¹³ The public health challenges that this presents are many.

LGV is caused by *Chlamydia trachomatis* serovars L₁, L₂ and L₃ and is an invasive disease capable of causing tissue destruction with many patients experiencing complex, severe symptoms. Disease presentation has three stages. In the primary stage, between 3 and 30 days after infection, a small

painless papule may develop at the site of infection and may ulcerate. During the secondary stage, systemic symptoms can occur, as well as lymphadenopathy, acute haemorrhagic proctitis (usually confined to the distal 10 cm of the anorectal canal), necrosis of the lymph nodes and abscess formation. The third stage is characterised by the development of the chronic inflammatory lesions typical of chlamydial infection, scarring of the genital tract, fibrosis, as well as lymphatic obstruction, elephantiasis, rectal strictures and fistulae. However, there are several potentially serious differential diagnoses including carcinoma, ulcerative colitis and Crohn's disease. Misdiagnosis occurred in the early stages of the European outbreaks and resulted in considerable delays before effective treatment was given. This was exacerbated by a lack of understanding of the natural history of rectal LGV both in the presence and absence of HIV. The problems of misdiagnosis highlight the need to improve health care professionals' knowledge and awareness of LGV.

In Europe, the development of diagnostic techniques, enhanced surveillance systems and intervention strategies was facilitated by an international information exchange through the European Surveillance of Sexually Transmitted Infections Network (www.essti.org/, verified August 2006). The establishment of laboratory diagnostic and reference facilities has been central to the public health response to the LGV outbreaks. In the absence of commercially available nucleic acid amplification techniques for LGV-associated serovars of *C. trachomatis*, laboratories have developed strategies to diagnose LGV. In the UK, the chlamydial status

of rectal or urethral specimens has been determined using a CDC in-house real-time PCR assay. Currently samples are genotyped using the method of Morre *et al.*¹⁴ This uses a real-time PCR that differentiates between LGV- and non LGV-associated serovars, with the determination of L₁, L₂ or L₃ by the method of Lan *et al.*^{15,16} These molecular confirmatory tests are being validated. Serology has not been used due to lack of specificity, and low sensitivity in early infection.¹⁷

Enhanced surveillance was crucial in informing the public health response to the epidemic and has provided timely, detailed information on the demography, sexual behaviour and sexual networks of those infected as well as clinical presentations, therapies and co-infections with other STIs. Data on clinical presentation was particularly crucial as little information was available concerned with the clinical presentation of LGV in the presence of HIV infection, the duration of symptoms and the therapies being used by clinicians. Revisions to existing clinical guidelines have reflected information gathered by enhanced surveillance. Therapeutic choices are first doxycycline 100 mg twice daily for 21 days, and second erythromycin 500 mg four times daily for 21 days. Clinical data on the use of azithromycin is sparse but the known activity of azithromycin against *C. trachomatis* indicates that 1 g once weekly for 3 weeks would be effective and may increase compliance with therapy (www.bash.org/, verified August 2006). Cases of LGV found in HIV-positive MSM should be treated.

The spread of LGV within groups of MSM and the high level of co-infection with syphilis and HCV illustrate the need to improve sexual health among MSM. Probable cases, that is patients who have either clinical signs of anorectal syndrome or inguinal syndrome, or who have had sexual contact with a confirmed case of LGV should be tested for *C. trachomatis* and, if positive, for LGV. Health promotion initiatives undertaken by non-governmental organisations and health services have sought to raise awareness of LGV among MSM so that they can make informed decisions in their sexual relationships, be aware of the symptoms of infection and attend clinical services when necessary.

It has been suggested that the observed outbreaks have been caused by increased awareness to LGV among clinicians, and findings presented at the 2006 National STD Prevention Conference in Atlanta suggest a prevalence of asymptomatic LGV infection of 52%.^{18,19} However, in the UK, where few asymptomatic cases have been identified, clinics that have historically seen a high proportion of MSM, and managed rectal symptoms consistently over time have experienced a substantial increase in MSM presenting with LGV. The high prevalence of HIV in LGV cases could suggest either that LGV is confined to a dense sexual network, or that clinicians are selectively testing HIV-positive MSM for LGV. However, aside from the origins of the epidemic, the

increase in LGV cases in affluent nations highlights the need to improve sexual health overall among MSM. Experience from the recent syphilis outbreaks suggests that control could prove difficult.

Conflicts of interest

None exist.

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