

..... **COMMENTARY**

Forrester *et al*¹ have reported a case of possible lymphogranuloma venereum (LGV) and suggested that chlamydial serology may have a role in establishing a diagnosis of LGV.

The detection of antibody can be useful in the diagnosis of infection when the organism is difficult or impossible to culture, such as *Treponema pallidum* in syphilis, or difficult to detect because it is present in small numbers deep in the tissue or in an abscess, as is suggested for the LGV serovars of *Chlamydia trachomatis*. Serological diagnosis of infection is notoriously difficult and often needs careful interpretation. Any serological test will only be as sensitive as the method will allow and techniques such as immunoassays and immunofluorescence are much superior to the complement fixation tests used previously. The specificity of the test is dependent on the antigen used and this can be a limiting factor, as in many instances the most convenient antigen is whole bacterial cells, which present a multitude of antigens, some of which are specific to the infecting organism but others may be present in other species of the same genera or even between genera. The lack of specificity with a single test can be minimised by using more than one test, preferably with a different antigen. The use of paired sera, obtained a few weeks apart, to detect either a rise in titre in response to the infecting agent, or a decline in titre, in response to treatment, often gives the most useful information. The test(s) used for serological diagnosis of any infection, as with all diagnostic tests, needs to be standardised and validated for use.

The detection of antibody in response to infection with *C trachomatis* has generally been considered of limited use because antibodies are long lived and cannot distinguish between current or previous infection. The comparison of paired sera could be more useful but a serum taken either before or very early after infection is rarely available. Serological diagnosis has, however, been considered a marker for LGV because the serovars, L1–L3 of *C trachomatis*, cause a more invasive disease than the genital serovars, D–K, resulting in higher antibody titres. A number of antibody tests have been described as discussed by Forrester *et al*,¹ and a complement fixation (CF) titre of ≥ 256 or a fourfold rise in micro-immunofluorescence titre (MIF) has been considered indicative of LGV.²

When the Health Protection Agency issued the alert to raise awareness of LGV in October 2004³ the criteria used to define a confirmed case were obviously considered. The detection of *C trachomatis* specific DNA belonging to LGV

serovars was chosen to allow comparison with our European colleagues and to provide a diagnostic service. The inclusion of serology was considered but it was thought that serology should not be included because of the lack of specificity demonstrated by the available tests, together with the lack of validation data for use in an outbreak of LGV, as discussed by Forrester *et al*.¹ The HPA algorithm, by excluding serology, differs from the Dutch algorithm. However, the definition of a confirmed case of LGV in both algorithms necessitates the detection of *C trachomatis* specific DNA of genotype L1, L2, or L3.⁴ There is no doubt that there are occasions when the molecular detection of the infecting agent is not possible or an appropriate specimen is not available. On these occasions, if the patient has symptoms and significant antibody levels, serology may give a clinical indication of LGV and guide treatment. However, in asymptomatic individuals a high titre should be interpreted with caution, as should a low titre in symptomatic individuals who may have only recently been infected.

The Sexually Transmitted Bacteria Reference Laboratory (STBRL) at the HPA has identified over 300 cases of LGV using molecular methods from a variety of specimens including biopsies.⁵ However, the ongoing outbreak of LGV in the United Kingdom does give an excellent opportunity to evaluate the different tests for antibodies to *C trachomatis*, but it is probable that serology will be of most use for epidemiological studies, as shown with pelvic inflammatory disease,⁶ than for diagnosis of individual patients.

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