Victoria Chalker

Public Health England, United Kingdom

LEPPTOSPIROSIS: THE USE OF MULTI LOCUS SEQUENCE TYPING AND DERRIVED SPECIES IDENTIFCATION DIRECTLY ON CLINICAL SPECIMENS

Leptospirosis is a worldwide zoonotic disease caused by Pathogenic Leptospira. In the UK, Leptospirosis disease and surveillance previously depended on laboratory data from culture and the Microscopic Agglutination Test (MAT) considered gold standard methods for detection of infection. Traditional Leptospira species identification requires an isolate, however culture is time-consuming taking several weeks and requires significant laboratory expertise to visualise live Leptospires. Indigenous and imported human leptospirosis is detected in England and Wales, with 40-100 laboratory confirmed cases per year. It is likely that there are further cases which are undiagnosed, particularly those with milder manifestations. Small outbreaks are detected intermittently, the most recent being a cluster of cases associated with a triathlon in 2014. The combined clinical diagnostic and reference service provided by the Rare and Imported Pathogens Laboratory (RIPL, PHE Porton) and the Bacteriology Reference Department (BRD, PHE Colindale) developed a nested MLST method for use directly on clinical specimens that enables direct identification of the species and simultaneous typing of pathogenic Leptospires. Clinical DNA specimen extracts, submitted to the Leptospira Reference Unit underwent 16s qPCR testing, MLST typing and species identification. The reasons for referral ranged from occupational exposure to holiday acquired infection and common clinical symptoms included: flu like symptoms, fever and kidney or liver symptoms.

Biography

Victoria Chalker studied Medical Microbiology BSc from the University of Newcastle, quorum sensing PhD (Nottingham University/Umea University, Sweden) and has worked on pathogen discovery from Royal Veterinary College, led Molecular Microbiology Unit for UK NEQAS for Microbiology, gained Clinical Scientist status, STI and respiratory bacterial infection specialist scientist Public Helath England and is now Head, Respiratory & Vaccine Preventable Bacteria Reference Unit, PHE with remit for several microbial genera including Streptococci, Legionella and Leptospira and seconded to the Office of the Chief Scientific Officer, NHS England focussing on diagnostics and antimicrobial resistance. She has more than 50 papers and 4 patents.

Vicki.chalker@phe.gov.uk

Notes: