

648. Identical Strain of *Mycobacterium conceptionense* Isolated from Patients at 2 Veterans Affairs Medical Centers within the Same Metropolitan Area over a 4 Year Period

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Background. Hospital epidemiologists at 2 Veterans Affairs Medical Centers (VAMCs A and B) within the same metropolitan area were alerted in 2015 by a shared VA reference laboratory to a possible cluster of *Mycobacterium fortuitum* complex (MFC) isolates, including *M. farcinogenes/senegalense*, from patients at both facilities.

Methods. Clinical samples were cultured for mycobacteria using standard methods and isolates were initially identified using AccuProbe (Hologic) or MALDI-TOF (Bruker). Stored MFC isolates from 2012-2015 were then analyzed using hsp and rpoB gene population sequencing, and compared with reference MFC sequences to determine species and genetic relatedness. One-liter water samples from sinks and ice machines on critical care units of both hospitals were cultured for nontuberculous mycobacteria using CDC published methods. Cohort clinical data were abstracted from electronic health records.

Results. We determined that 31 of 38 MFC isolates (19 VAMC A, 12 VAMC B) were an identical strain of *M. conceptionense* by rpoB sequencing. The same strain was found in a critical care unit ice machine at VAMC A. No other water samples from either facility contained this species. Ten additional MFC isolates from other VAMCs were also sequenced and none were *M. conceptionense*. Isolates came from critical care patients (27/31, 87%), inpatient non-critical care units (3, VAMC A) and 1 outpatient (VAMC B Pulmonary Clinic). Infection occurred in 2 patients (6%): bacteremia and mediastinitis 15 days after cardiac surgery (VAMC A), and pneumonia in an immunocompromised patient (VAMC B). Both patients received targeted antimicrobial therapy and recovered. The remaining 29 isolates were of respiratory origin and determined not to be clinically significant.

Conclusion. *M. conceptionense* was isolated from multiple patients over 4 years at 2 VAMCs in the same metropolitan area. Conventional methods (AccuProbe, MALDI-TOF) and hsp did not adequately differentiate MFC species; only rpoB sequencing identified *M. conceptionense*. An ice machine may have been one source at VAMC A; no source was determined for VAMC B. *M. conceptionense* is an unusual pathogen, causing infection in only 2 cases in our cluster.

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649. Transmission of *N. meningitidis* Serogroup W, ST-11 During an International Flight

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Background. Following the 23rd World Scout Jamboree (WSJ) held in Japan from 28 July to 8 August 2015, a meningococcal disease outbreak due to *Neisseria meningitidis* (*N. meningitidis*) serogroup W, Sequence Type (ST) 11 occurred among scouts participating WSJ and their close contacts in Scotland and Sweden. On October 2, 2015, a doctor in Osaka city notified Osaka City Public Health Center an invasive meningococcal disease (IMD) case and a related carrier. They were married couple and were on the same international flight as Scottish scouts who had attended the WSJ and developed the disease later. In Japan, IMD is notifiable disease, however, it is rare (incidence rate of 0.028 per 100,000 person-years) and serogroup W is seldom reported.

Methods. National Institute of Infectious Diseases (NIID) interviewed the couple to collect detailed information about their travel history, degree of contact with the scouts on the flight, and her clinical course during their travel. In addition, NIID conducted molecular biological testing on the isolates derived from the couple and compared it with the strain from the scouts.

Results. Wife suddenly developed high fever and chills on 19 September. On 25 September, she visited a hospital and was diagnosed as septic arthritis and hospitalized the same day. Isolates collected from joint fluid were serogroup W, ST-11, the same strain isolated from Scottish scouts. Both the couple and the Scottish scouts were on approximately 12 hours flight from Japan to Germany departed on 8 August 2015. The Scottish scouts sat front of three rows of the couple as well as the seats directly across the aisle. The couple didn't report a history of direct contact including conversation with the scouts, but noticed one scout seated right in front of them was coughing

throughout the flight. The couple travelled to Spain and returned to Japan with neither contacting closely with local people nor attending large events.

Conclusion. Our investigation and laboratory results strongly suggests that *N. meningitidis* was transmitted from the Scottish scouts to the couple during long international flight. Our investigation indicates the need to update the guidelines of in-flight transmission of meningococcal disease, including definition of close contacts.

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650. *Mycoplasma genitalium* Prevalence and Variability Based on Gender, Race and Sexual Preference in Patients Attending the Oakland County Health Department Disease Clinic

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Background. *Mycoplasma genitalium* is an important emerging pathogen implicated in male urethritis as well as cervicitis and pelvic inflammatory disease in women. The epidemiology of *M. genitalium* resembles that of *C. trachomatis* and *N. gonorrhoea* as all are found more frequently in younger, sexually active individuals and African Americans as compared with other races. There is currently no FDA cleared diagnostic test for *M. genitalium*, although a research-use-only TMA assay exists. The aim of our study was to determine the prevalence of *M. genitalium* in patients presenting to the Oakland County Health Department (OCHD) and determine any differences in prevalence based on sex, age and sexual preference.

Methods. We obtained a total of 5,021 urine specimens during single patient visits to the OCHD between August 1, 2016 and January 31, 2017. Of these, 2,323 were from female subjects and 2,698 were from male subjects. Urine samples were tested for *M. genitalium* (using a research-use-only TMA assay) as well as *C. trachomatis*, *N. gonorrhoea*, and *T. vaginalis* (using FDA approved PCR assays). Each patient also had VDRL titers drawn for syphilis testing.

Results. *M. genitalium* was the most frequent organism recovered in women with a prevalence of 11.1%, followed by *C. trachomatis* (7.40%), *T. vaginalis* (4.43%), *N. gonorrhoea* (2.02%) and syphilis (0.65%). In men, *M. genitalium* was equally prevalent (12.31%) as *C. trachomatis* (10.67%), followed by *N. gonorrhoea* (4.86%), *T. vaginalis* (3.48%) and syphilis (1.93%). All organisms, with the exception of syphilis, were more prevalent in African-American men as compared with Caucasian men. No difference in prevalence was seen in women irrespective of race and there was no difference based on sexual orientation.

Conclusion. Our analysis showed that *Mycoplasma genitalium* is highly prevalent in our study population. This is of particular public health concern as this organism can result in a significant disease burden if left untreated. Azithromycin is the first-line agent against *M. genitalium* but can result in treatment failure in 13-32% of cases according to recent studies. For this reason, we advocate for the need to test for *M. genitalium* routinely in symptomatic patients at risk for sexually transmitted diseases.

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651. Brucellosis in Dallas, Texas: a Case Series

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Background. While the epidemiology of Brucellosis is well described in systematic reviews and retrospective analyses in endemic countries, there is a paucity of similar data in the United States (US). With a recent outbreak of Brucellosis reported in Dallas County in 2016, we sought to characterize cases of Brucellosis at two Dallas teaching hospitals over the past 10 years.

Methods. A retrospective chart review of electronic medical records at Parkland Health and Hospital System and Clements University Hospital was completed for all patients over 18 who were diagnosed with Brucellosis, as defined by ICD9/10 codes, problem lists, and/or positive microbiologic or serologic data, between 1/1/2007 - 2/6/2017. Demographic, epidemiologic, and clinical characteristics were collected.

Results. Out of 104 charts reviewed, 16 cases of Brucellosis (14 definite, 2 probable) were identified. Fifty-six percent were male, the mean age was 45, and 94% were of Hispanic ethnicity. Recent travel was reported in 6/16 cases (5 to Mexico, 1 to India) and exposure to unpasteurized cheeses was reported in 13/16 cases. The majority of cases were seen in the summer months, and a sharp increase in incidence was noted in 2016 (Figure 1). Common symptoms included fever (16/16), chills (8/16), diarrhea (4/16), headache (4/16), malaise (4/16), and body aches (4/16). Laboratory abnormalities included leukopenia, thrombocytopenia, and elevated liver function tests. Other complications included epididymitis and/or orchitis (2/16), hepatomegaly (5/16), splenomegaly (4/16), and other splenic abnormalities (2/16). *Brucella* discitis/osteomyelitis with spinal epidural abscess (1/16), possible neurobrucellosis (1/16) and recurrent