



## **Increase in *Neisseria meningitidis* serogroup W135, Niger, 2010.**

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the presence of *Rickettsia* sp. in cell culture, and *R. sibirica mongolitimonae* was identified by PCR and sequencing as described above (online Appendix Figure).

*R. sibirica mongolitimonae* was first isolated in Beijing in 1991 from *H. asiaticum* ticks (formerly named *R. sibirica* HA-91), and the first human infection was reported in 1996 (4). Since that time, *R. sibirica mongolitimonae* infections have been diagnosed in 15 additional patients: 12 from Europe (France, Portugal, Greece, and Spain) and 3 from Africa (Algeria, South Africa, and the present patient who returned from Egypt). The application of genotypic criteria to *R. sibirica mongolitimonae* classified the organism as a subspecies of *R. sibirica* group, in spite of its distinct serotypes and specific epidemiologic features compared to *R. sibirica sibirica*, the causative agent of Siberian tick typhus or North Asian tick typhus (1).

*R. sibirica mongolitimonae* causes lymphangitis-associated rickettsiosis. The available clinical features for the only 16 reported cases (10 men, 6 women) include fever in all patients (range 38°C–39.5°C), chills (3/16 patients), headache (13/16), myalgia (13/16), arthralgia (3/16), cutaneous rash (11/16), enlarged lymph nodes (10/16), lymphangitis expanding from an inoculation eschar to the draining node (6/16), and retinal vasculitis in a pregnant woman (6,7). Two patients exhibited 2 eschars. Most eschars were on the legs, but some patients had an eschar on the back, the abdomen, the arm, or the face. The patients' median age was 50 years (range 20–76 years). A tick bite or tick handling was reported for 5 patients, but no tick was collected for further examination. In France, 7 patients probably came in contact with *R. sibirica mongolitimonae*-infected ticks in their gardens, and 2 other patients were probably exposed during a walk in the Camargue Na-

tional Park, where migratory birds are frequently present (7). Infection with *R. sibirica mongolitimonae* occurred primarily between March and September. A single case was reported in December in Greece. *R. sibirica mongolitimonae* has been detected in several *Hyalomma* spp. ticks in Niger, Greece, the People's Republic of China, Senegal, and in *Rh. pusillus* ticks in Portugal (6–8). Although *Hyalomma* spp. ticks seem to be associated with *R. sibirica mongolitimonae*, more experimental data are needed to determine the tick vectors and reservoirs of this rickettsia.

Clinicians in Egypt and those who may see patients returning from this country should be aware that several species of rickettsiae are found in this region. Thus, they should consider a range of SFG rickettsial diseases in the differential diagnosis of patients with febrile illnesses.

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## Increase in *Neisseria meningitidis* Serogroup W135, Niger, 2010

**To the Editor:** Meningococcal epidemics in the African meningitis belt are generally caused by *Neisseria meningitidis* serogroup A strains, but they also can be caused by serogroup W135 or X strains. The largest reported outbreak caused by serogroup W135 occurred in Burkina Faso in 2002 with ≈13,000 suspected cases (1). Sporadic cases of meningitis caused by serogroup W135 have, however, been

detected previously, notably in Niger since the early 1980s (2). This serogroup has also been associated with outbreaks in pilgrims to Mecca, Saudi Arabia, in 2000, and several clusters of cases occurred worldwide before 2002 (3). After 2003, no major outbreak caused by serogroup W135 was detected in sub-Saharan countries, only sporadic cases. Although Niger borders Burkina Faso, Niger has not experienced a large outbreak of meningitis caused by serogroup W135, with the exception of 7,906 suspected cases and 595 deaths declared in 2001; serogroup W135 represented 12 (38.7%) of the small number ( $n = 31$ ) of confirmed cases (4). In 2010, serogroup W135 may have caused a major outbreak (a large proportion of this serogroup was detected during the first 12 weeks). Niger residents have not been in contact with this serogroup in recent years and have never been immunized with the trivalent polysaccharide vaccine (A/C/W135).

From January 1 through March 28, 2010, the Ministry of Public Health of the Republic of Niger reported 1,188 suspected cases of meningococcal disease, including 103 deaths (case-fatality rate 8.7%). Suspected cases were reported from all 8 provinces but predominantly in the provinces of Maradi (40%) and Tillabéry (24%). At week 12, the districts of Maradi Commune and neighboring Madarounfa crossed the alert, or epidemic, threshold with cumulated attack rates per 100,000 inhabitants of 57.0 and 48.5, respectively. Zinder City district also crossed the alert threshold.

Laboratory confirmation and microbiologic surveillance of meningococcal meningitis is conducted by the Centre de Recherche Médicale et Sanitaire by using culture or PCR (5) techniques on cerebrospinal fluid (CSF) or CSF-inoculated trans-isolates. During the study period, the Centre received 816 CSF or trans-isolate specimens (from 69% of the notified cases). Culture ( $n = 23$ , 2.8%)

and PCR (all specimens) identified *N. meningitidis* as the predominant pathogen ( $n = 248$ , 30.4%), followed by *Streptococcus pneumoniae* ( $n = 35$ , 4.3%) and *Haemophilus influenzae* ( $n = 13$ , 1.6%). Among the 248 cases with confirmed meningococcal etiology, the most frequent serogroup was W135 ( $n = 121$ , 48.8%), followed by A ( $n = 116$ , 46.8%) and X ( $n = 2$ ), indicating that serogroup W135 had increased markedly compared with the past 2 years (Figure). Among the 816 CSF specimens, 454 (56%) remained negative when tested for the presence of *N. meningitidis*, *S. pneumoniae*, or *H. influenzae* by PCR. Eighty-four (69.4%) of the serogroup W135 strains originated from the province of Maradi (southern Niger) and, more specifically, 36.4% ( $n = 44$ ) and 19.8% ( $n = 24$ ) originated from the Madarounfa and Maradi districts, respectively. In contrast, serogroup A was mainly present in Tillabéry (western Niger) with 49.1% ( $n = 57$ ) of the strains and, to a lesser extent, in the provinces of Maradi (16.4%,  $n = 19$ ) and Dosso (13.8%,  $n = 16$ ). All meningococcal strains ( $n = 9$  for W135,  $n = 1$  for A)

recovered from trans-isolates and analyzed by Etest (AB bioMérieux, Marcy l'Etoile, France) were susceptible to beta-lactams (penicillin, amoxicillin, and ceftriaxone), chloramphenicol, and rifampin. This finding supports the appropriateness of World Health Organization recommendations for antimicrobial drug treatment. The A strain belonged to the sequence type (ST) 7 and the W135 strains to ST 11, the same ST of the strain associated with outbreaks in pilgrims in Saudi Arabia in 2000 (3) and the strain that caused the large epidemic in Burkina Faso in 2002 (1).

The mean ages of patients with confirmed cases of infection with serogroup W135 and serogroup A were 8.1 (SD 8.5) and 10.9 (SD 7.9) years, respectively. Although no significant difference was found in the mean ages, the age group was 1–4 years of age had more disease caused by serogroup W135, and children 5–14 years of age were most affected by serogroup A. Similarly, the attack rate during the outbreak of meningitis caused by serogroup W135 in Burkina Faso in 2002 was highest in patients <5 years

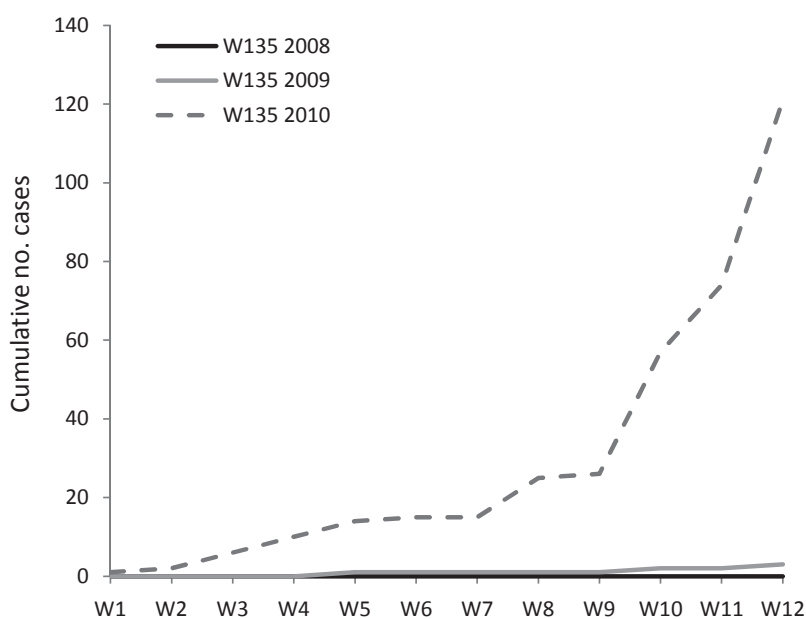


Figure. Epidemic curve of cumulative confirmed cases of *Neisseria meningitidis* serogroup W135 infections in Niger, 2008, 2009, and 2010 (weeks 1–12). No cases were found in 2008. A color version of this figure is available online ([www.cdc.gov/EID/content/16/9/1496-F.htm](http://www.cdc.gov/EID/content/16/9/1496-F.htm)).

of age, and the attack rate decreased as patients' ages increased (6).

Reactive vaccination campaigns in some communes of Madarounfa district that had reached the epidemic threshold were launched by the Ministry of Public Health with a remaining 2009 stockpile (16,527 doses, 35.7% coverage) of the quadrivalent polysaccharide vaccine (A/C/Y/W135) from Médecins sans Frontières. The International Coordinating Group on Vaccine Provision for Epidemic Meningitis Control has also recently approved the release of 381,526 doses of trivalent polysaccharide vaccine (A/C/W135) for vaccination campaigns in Maradi and Zinder districts. Future immunization campaigns will be implemented by Ministry of Public Health with the support of the World Health Organization and partners, including Médecins sans Frontières and The United Nations Children's Fund.

Given the large population at risk, and the low availability and high cost of the trivalent vaccine, a sound vaccination strategy is of particular importance to mitigate the expansion of serogroup W135 in the country. Microbiologic surveillance is critical in the early and accurate detection of meningococcal serogroups for determining the appropriate vaccine.

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## Toscana Virus Infection in American Traveler Returning from Sicily, 2009

**To the Editor:** Since the discovery of Toscana virus (TOSV) in 1971 in Tuscany (1), sandfly-borne TOSV has become recognized as a leading cause of acute meningitis in central Italy during the summer (2). France, Spain, Portugal, Greece, and Cyprus have also reported cases of TOSV infection (2). Although TOSV has been detected in sandflies in Sicily (3), we are not aware of any historically documented human infection with TOSV in this southernmost region of Italy.

We report TOSV infection of an American male physician, 65 years of age, who traveled to Sicily for 3 weeks and returned to the United States in October 2009. Two days after his return, he awoke with a headache, and hours later he noticed difficulty finding words. His headache progressed, and during the next few hours, he experienced severe expressive dysphasia. At admission to the hospital, he denied having fever, nuchal rigidity, photophobia, nausea, vomiting, or diarrhea.

Other than changing planes in Milan, the patient had remained in Sicily during the entire 3 weeks of his visit. He had sustained both mosquito and what he thought were flea bites while in Sicily. He had no known exposure to bats, rabid animals, or ticks.

Computed tomographic scan and magnetic resonance imaging of the brain showed no mass lesions or abnormality of the cerebral vessels. A sample of cerebrospinal fluid (CSF) obtained at admission showed 14 leukocytes/mm<sup>3</sup> (reference range 0–5 leukocytes/mm<sup>3</sup>) with 100% lymphocytes, a protein level of 126 mg/dL (reference range 15–45 mg/dL), and a glucose level of 63 mg/dL (reference range 50–80 mg/dL). A nasopharyn-