



Figure. Trends of annual numbers and percentages of *Salmonella enterica* serotype Choleraesuis isolates from 2 tertiary care hospitals in Taiwan. A) Data from Chang Gung Memorial Hospital at Kaohsiung, southern Taiwan. B) Data from Chang Gung Memorial Hospital at Linkou, northern Taiwan. *Approval and importation of vaccine for swine. †Promotion of the Certified Agricultural Standards quality food certification system (4), monitoring of sale of antimicrobial drugs for animal use (4), inspection of chemical residues in swine farms and pork market, launch of educational programs about safe use of drugs in animals (4); inspection of illegal slaughtering and sale of farmed animals dying of unidentified disease (4); and establishment of Taiwan Agriculture and Food Traceability system (4,8). ‡Initiation of death insurance program for pigs in 2 representative central-southern counties (9). §Extension of death insurance program to another 8 neighboring counties (9). ¶Full implementation of death insurance program throughout all Taiwan counties (9). #Establishment of Taiwan Good Agricultural Practice for pig husbandry (10).

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Detection of *Rickettsia sibirica mongolitimonae* by Using Cutaneous Swab Samples and Quantitative PCR

To the Editor: Tick-borne rickettsioses are caused by the obligate intracellular bacteria spotted fever group (SFG) *Rickettsia* spp. These zoonoses are now recognized as emerging or reemerging human infections worldwide, with ≈15 new tick-borne rickettsial species or subspecies recognized as human pathogens during the 30 past years (1). New approaches have emerged in recent years to definitively identify the causative agents, including emerging pathogens. Using cutaneous swab specimens from patients for quantitative PCR (qPCR) testing rather than cutaneous biopsy specimens is

a major innovation in the diagnosis of SFG rickettsioses (2–4). Using this approach, we report 1 of the few documented infections caused by *Rickettsia sibirica mongolitimonae*.

A 16-year-old boy with no medical history was admitted to the Department of Infectious diseases at University Hospital in Marseille on May 25, 2012, with a fever (40°C) and skin lesions on his lower right eyelid. He had been fishing 7 days earlier at a pond situated in southern France near Marseille (43°26'N, 5°6'E). He had been given amoxicillin/clavulanic acid by his family doctor and showed no improvement after 2 days. The only sign on physical examination was the presence of 2 eschars on his lower right eyelid, associated with right periorbital edema (Figure) and painful right-sided cervical lymphadenopathies. Results of standard laboratory tests were normal except for the C-reactive protein level (21 mg/L; reference value <10 mg/L). He reported that the black spots on his lower eyelid were most likely related to bites from ticks that he got while fishing. He removed the ticks the next day. Because a tick-borne rickettsiosis was suspected, oral empirical treatment with doxycycline (200 mg/daily) was started. The patient improved in 48 hours and remained well (Figure).

The first serologic test result for *Rickettsia* spp. was negative. Because of the location of the eschars, it was not possible to obtain biopsy specimens from them. Nevertheless, real-time qPCR that was performed on 2 eschar swab specimens showed positive results for *Rickettsia* spp in 24 hours. The specific qPCR test results were positive for *Rickettsia sibirica mongolitimonae* in both samples (1).

Amplification and sequencing of a fragment of *ompA* gene on these samples showed 100% (533/533) identity with *R. sibirica mongolitimonae* HA-91 (RHU43796). Four days later, after doxycycline treatment, 1 additional swab specimen was positive



Figure. Palpebral eschars caused by *Rickettsia sibirica mongolitimonae* infection in a 16-year-old febrile boy with fever, southern France, spring, 2012 (left). He recovered after doxycycline treatment (right).

by specific qPCR for *R. sibirica mongolitimonae*. The convalescent-phase serum specimen (obtained 14 days after admission) was positive by indirect immunofluorescence assay for rickettsial antigens against SFG, suggesting seroconversion.

R. sibirica mongolitimonae is an intracellular bacterium that was recognized as a human pathogen in 1996 (1). The inoculation eschar at the tick bite site is a hallmark of many tick-borne SPG rickettsioses. However, because lymphangitis was also observed in a few of the patients reported subsequently, *R. sibirica mongolitimonae* infection was named lymphangitis-associated rickettsiosis (5). To date, 24 cases have been reported in Europe (France, Spain, Portugal, Greece) and 3 in Africa (Egypt, Algeria, South Africa) (6,7). Vectors include ticks in the genus *Hyalomma* and also *Rhipicephalus pusillus*, a species of tick found on the European wild rabbit (also can be found on wild carnivorous animals, dogs, and domestic cats), which may bite humans (7). The life-threatening Mediterranean spotted fever caused by *R. conorii* peaks in the warmer months of July and August because of a heat-mediated increase in the aggressiveness and, therefore propensity to bite humans, of the brown dog tick vector, *R. sanguineus* (8). In contrast, *R. sibirica mongolitimonae* infection is more frequently reported in the spring (7).

The diagnosis of rickettsioses is most commonly based on serologic testing (1). However, serologic evidence of infection generally appears in the second and third weeks of illness, as in the case-patient described here. The use of molecular tools or cell culture on a skin biopsy specimen from an eschar is the best method of identifying *Rickettsia* spp. However, this invasive and painful procedure needs to be performed in sterile conditions with local anesthesia. Swabbing an eschar is easy and painless; the physician only needs a dry sterile swab that must be directed, while being rotated vigorously, to the base of the eschar, after the crust is removed (4). The sensitivity of this technique is comparable with that of rickettsial detection on skin biopsy samples by molecular tools. If the eschar lesion is dry, a wet compress, previously humidified with sterile water, should be placed on the inoculation eschar for 1 minute before swabbing, to increase the quantity of material swabbed. In addition, the crust eschar also can be used for rickettsial diagnosis. Because sufficient material can be obtained during swabbing, this test can be used by any practitioner at the patient's bedside. As soon as the samples are sent to a laboratory with qPCR capability, results can be obtained quickly. In any case, when a physician is confronted with a patient with a fever and an eschar, doxycycline treatment

should be initiated immediately because β -lactam antimicrobial drugs are inefficient for the treatment of rickettsioses (9).

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Pandemic *Vibrio parahaemolyticus*, Maryland, USA, 2012

To the Editor: Since 1996, an increasing number of infections caused by *Vibrio parahaemolyticus* strains belonging to a pandemic clonal complex (CC), CC3, typically O3:K6, have been observed worldwide (1–3); most of these strains are sequence type (ST) 3. In the summer of 1998, outbreaks linked to O3:K6 occurred in Galveston Bay, Texas, and Oyster Bay, New York, USA; the illnesses were associated with oyster consumption (4). Strains belonging to CC36 are the leading cause of *V. parahaemolyticus* infections in the United States. These

strains are endemic to the West Coast (2) and have been historically linked to outbreak-associated *V. parahaemolyticus* infections caused by consumption of raw oysters harvested from the region (5).

In August 2012, a *V. parahaemolyticus* outbreak involving 6 persons occurred in Maryland, USA. The patients (members of 2 dining parties) had eaten in the same restaurant on the same day; raw and cooked seafood was served at the restaurant. Party A comprised 4 diners, of whom 2 had laboratory-confirmed illness and 2 were probable case-patients. Party B comprised 2 diners, of whom 1 had laboratory-confirmed illness and 1 was a probable case-patient. Probable case-patients were epidemiologically linked to confirmed case-patients, but *V. parahaemolyticus* was not detected in their stool samples. The epidemiologic investigation did not conclusively identify the specific food responsible for the outbreak. The affected diners had not eaten oysters, lobster, or mussels, but they had eaten cooked clams, fish, crab, and shrimp. Because the patients had not eaten oysters, a traceback investigation was not conducted. The outbreak possibly was caused by cross-contamination during food preparation. No other cases were reported from this restaurant or the surrounding area.

V. parahaemolyticus was isolated from stool samples of 3 of the patients. The isolates were characterized by real-time PCR for virulence-related genes (*tdh* and *trh*). All 3 isolates were *tdh* positive and lacked the *trh* gene. Pulsed-field gel electrophoresis (PFGE) was run, using *SfiI* and *NotI*; the resulting K16S12.0138 (*SfiI*) and K16N11.0143 (*NotI*) patterns were indistinguishable. The PFGE pattern combination was queried against combination entries made in PulseNet (www.cdc.gov/pulsenet/) during February 4, 2010–April 16, 2013, and found to be indistinguishable from other clinical entries (online Technical