

Subcontinent. Our results not only add new insights on the evolutionary history of cholera, but also provide valuable information to modulate the public health response to the disease.

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#### Misdiagnosed outbreak of bartonella bacilliformis in Peruvian Amazon department



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**Background:** In March 2013, the presence of an outbreak of *Bartonella bacilliformis* in the Rodriguez de Mendoza (Amazonas department, Peru) was reported. *B. bacilliformis* is an endemic pathogen of the Andean region, responsible for Carrion's disease. One of the main problems of this illness is the lack of adequate technical and human resources for proper diagnosis in endemic rural areas. The objective of this study was to characterize a supposed *B. bacilliformis* outbreak, internationally informed in Rodriguez de Mendoza province.

**Methods & Materials:** Fifty-three blood samples were recovered from people diagnosed with Carrion's disease, either by optical microscopy and/or clinical manifestations. In all cases epidemiological and clinical data were recorded. The samples were cultured on Columbia Agar adding 10% of sheep blood and incubated at 28 °C for a period of 10 weeks. Every 14 days the plates were visually inspected to detect any bacterial growth. Additionally, the DNA was directly extracted from blood and 2 different 16S rRNA PCR schemes were used, one specific for *Bartonella* genus and other using universal primers. Twenty-six amplified products of universal 16S rRNA were randomly recovered and sequenced.

**Results:** The main clinical presentations reported were headache (51%), physical discomfort (51%), chill (32%) and fever (24, 5%). Only 3 blood cultures were positive. No positive PCR was obtained when using the *Bartonella* specific PCR either on blood or on cultured bacteria. However, all the PCR with the universal primers were positive. The sequenced 26 (49%) samples were identified as *Sphingomonas* spp. being this microorganism the causative

agent of this outbreak. In 17% of the cases, patients were reported to have aquatic activities.

**Conclusion:** Several *Sphingomonas* spp. infections in humans have been reported, mostly limited to sporadic case reports or intra-hospitalary outbreaks, but as far as we know this is the first outbreak of *Sphingomonas* spp. described in a non-hospital environment. The association between 17% of patients with aquatic activities suggests that this was the most feasible transmission way.

Training of health staff and development of new diagnostic able to be implemented in rural endemic areas is urgent in order to overcome wrong diagnostics and avoid wrong treatments.

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#### Malaria among sickle cell anaemia (SCA) patients in a nomadic population



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**Background:** Nigeria has one of the world's highest burdens of malaria in the world. Nomadic Fulani in northern-Nigeria have been identified as a vulnerable group, often neglected during planning and implementation of health interventions. Nomadic lifestyle, common practice of consanguineous marriages and poor access to preventive and curative strategies against malaria make sickle cell anaemia common and expose them to devastating effects of malaria. We conducted a cross-sectional study in a nomadic Fulani setting in Kano state, Nigeria to determine burden and effects of malaria in the community.

**Methods & Materials:** We administered structured questionnaires to individuals 15 years and above to obtain socio-demographic information, consanguinity and symptoms of malaria. We conducted on-the-spot malaria rapid diagnostic test (RDT) and collected blood sample for haematocrit and haemoglobin electrophoresis. We also conducted Focussed Group Discussions (FGD) with selected members of the community to determine knowledge, attitude and preventive practices against malaria and SCA. We compared prevalence of malaria, consanguinity and haemoglobin genotypes within the community.

**Results:** A total 229 subjects were interviewed, among which 100 (43.7%) were females. Median age (range) was 35 yrs (15 – 80 yrs). More than two-thirds of the women 72 (72.0%) were of reproductive age. Symptoms of malaria and positive RDT