

An outbreak of Rift Valley Fever, Niger, 2016

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Background

In August 2016, several unexplained deaths were reported in the Tchintabaren District of Niger. At the same time, >700 livestock deaths and abortions were also reported. In September, ELISA on select samples was positive for IgM antibodies to Rift Valley Fever virus (RVF), a zoonotic infection transmitted to humans by mosquitoes and contact with infected animals. This was the first confirmed RVF outbreak in Niger. Given the difficult context of the epidemic zone and the incomplete nature of laboratory confirmation, an outbreak investigation was carried out in December 2016.

Methods

Standardized case definitions were established following international guidance. Data was collected both retrospectively and prospectively. Standardized forms were used to collect information on patient demographics, clinical signs and symptoms, contact with animals, travel history and dietary practices. Data was collected from patient charts and from telephone or in-person interviews. All persons responding to the case definitions were considered suspected cases. These data were crossed with PCR and ELISA results from the national reference laboratory. Data were analyzed in Stata.

Results

Between July 2016 and January 2017, a total of 377 patients met the case definition for suspected cases, of whom 203 (54%) were female (30 of whom were pregnant). The median age of suspected cases was 22 years (IQR 11-40). Among suspected cases, 317 (84%) had ≥ 1 blood sample taken. Of these, 15 (5%) had acute RVF infection confirmed by PCR or ELISA for IgM. Among the 302 samples negative for acute RVF infection, only 4 tested positive for other acute viral infections (1 dengue, 1 yellow fever, 2 West Nile). 30 suspected cases died (case fatality ratio 7.9%). Analysis of risk factors for RVF infection and for case fatality is ongoing.

Conclusion

An epidemic of Rift Valley Fever affected a remote region of Niger. This unexpected event was met with initial confusion, and fully describing the event has been challenging, but is important for future outbreak preparedness in this at-risk region. The large number of suspected cases with no biological confirmation highlights challenges in outbreak response in difficult to reach areas.

Rift Valley Fever is an emerging infection, and this epidemic was unexpected. Outbreak preparedness should be improved, using lessons learned from this epidemic.