
Leptospirosis following a major flood in Central Queensland, Australia

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SUMMARY

Throughout December 2010 and January 2011, Queensland experienced widespread flooding due to unusually protracted and heavy rainfalls. In mid-January 2011, four individuals from a small community in Central Queensland were hospitalized with leptospirosis. A further five cases were subsequently identified from around Central Queensland, bringing the total to nine. Microscopic agglutination testing found that serovar Arborea (*Leptospira borgpetersenii* serovar Arborea) was presumptively responsible for leptospirosis in seven of nine confirmed cases. Serovars Hardjo and Australis were identified in samples from two remaining cases. All cases had exposure to flood water. No single exposure source was identified. This is the first reported outbreak of leptospirosis in Central Queensland and the first report of leptospirosis cases associated with flood water inundation in Queensland. Public health authorities should continue to promote awareness of leptospirosis in flood-affected populations. Healthcare providers must maintain a high level of suspicion for leptospirosis during and after flood events.

Key words: Community outbreaks, leptospirosis, surveillance, water-borne infections, zoonoses.

INTRODUCTION

Leptospirosis is a systemic zoonotic disease caused by spirochaetes of the genus *Leptospira*. Humans become infected through contact with the urine of infected animals, either directly or indirectly through contact with water or soil. In tropical and subtropical environments, the organism can survive in water and

soil for months [1]. Infection can occur through ingestion or via mucosal surfaces or through cuts and abrasions of the skin [2]. Globally, animal reservoir hosts include rodents, livestock and domestic pets [2] and in Australia the major reservoir hosts are rats, cattle, pigs and dogs [3]. Leptospirosis presents with a wide spectrum of clinical features. Many cases exhibit non-specific, influenza-like symptoms including fever, chills, headaches and myalgia. Complications can be severe and include hepatic and renal dysfunction, myocarditis, meningism and pulmonary haemorrhage with respiratory failure [4–6].

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