

Girl infected with *Mycobacterium marinum* after iguana bite

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A three-year-old girl contracted an unusual *Mycobacterium marinum* infection that developed following an iguana bite while she was on holiday in Costa Rica. The doctors who treated her will report on the

case at this year's [European Congress of Clinical Microbiology & Infectious Diseases](#) (ECCMID) in Copenhagen, Denmark (15–18 April).

The authors believe it is the first reported case of *M. marinum* [infection](#) following an iguana bite. *M. marinum* is a ubiquitous, non-tuberculous mycobacterium that causes a tuberculosis-like illness in fish and has been known to infect humans when [skin wounds](#) are exposed to contaminated fresh or salt water.

The toddler was sitting on the beach eating cake when the iguana suddenly ran up and bit her on the back of her left-hand before snatching the cake.

She was immediately taken to a local clinic and found to have a single, superficial wound on the back of the metacarpal bone of her middle finger. After disinfection, she was given five days of amoxicillin antibiotics for potential salmonella exposure (common after reptile bites), and the wound healed quickly without any issues.

Five-months later, however, the parents noted a small bump on the back of her left hand which gradually became larger, and the skin became red and mildly painful over the next three months.

The toddler attended the hospital at Stanford Children's Health (Stanford, CA, U.S.) where an ultrasound revealed a mass consistent with a ganglion cyst (fluid-filled lump), but the location and symptoms were not in keeping with this.

The orthopedic surgeon who removed the 2-cm thick-walled mass noticed a discharge of pus from the wound, indicating an infection.

Histological examination revealed extensive tissue death and necrotizing granulomatous inflammation (an area of inflammation where the tissue

has died), and cultures yielded a pure growth of *M. marinum*. As *M. marinum* is resistant to common antibiotics including amoxicillin, the girl was started on rifampin and clarithromycin and responded well to therapy.

While organisms that cause infection after dog or cat bites are well known, the microbiological cause of infected wounds secondary to iguana bites is limited to a few case reports, with *Serratia marcescens* and *Staphylococcus aureus* most often implicated. *Salmonella enterica* is also possible, given 75% to 90% of both wild and captive reptiles (including snakes, turtles, and iguanas) are colonized with these bacteria.

Several studies have reported that domestic reptiles harbor non-tuberculous mycobacteria (NTM) given their abundance in fresh and salt water.

"*M. marinum* prefers [lower temperatures](#) (30°C) for optimal growth, and it's highly likely that the cold-blooded iguana, with [body temperatures](#) ranging from 22°C–37°C, may sustain these microbes as reservoirs," explains lead author Dr. Jordan Mah from Stanford University School of Medicine, California, U.S.

He continues, "The bite resulted in colonization by a bacterium rarely found in humans, and demonstrates that iguanas may be carriers of harmful bacteria capable of producing severe infections. This may help inform [health care professionals](#) of less commonly known bacterial infections following unusual zoonotic exposures."

Provided by European Society of Clinical Microbiology and Infectious Diseases

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