Salmonella Urinary Tract Infections Associated with Exposure to Pet Iguanas

Sir—Infections of the urinary tract due to *Salmonella* species are uncommon. In one report from 1957, the New York Salmonella Center noted that 0.7% of 7,779 cases of human salmonellosis were urinary tract infections (UTIs) [1]. Ramos et al. [2] recently reviewed cases of salmonella UTIs that occurred at their facility over a 15-year period. These investigators, as well as others [3–7], noted that chronic illness, immunosuppressive therapy, and structural abnormalities of the urinary tract play an important role in the pathogenesis of nontyphoidal salmonella UTI. The presumed mechanism by which the urinary tract is infected by *Salmonella* species is either via an ascending route from the perineum or by hematogenous dissemination after ingestion of the microorganisms.

In addition to the above-noted predisposing factors for salmonella UTI, we report that exposure to reptiles, especially the common green iguana (*Iguana iguana*), is also a risk factor. This suggestion is based on our recent experience with two patients who had salmonella UTIs and contact with *I. iguana*. We describe these patients herein.

The first patient was a 30-year-old female, who had undergone renal transplantation 18 years previously and who was receiving azathioprine and prednisone. She presented with a 1-week history of generalized malaise and suprapubic discomfort. She was afebrile and had no intestinal symptoms. Findings on an echocardiogram were unremarkable, and a renal sonogram did not reveal any abnormalities of her transplanted kidney. Cultures of urine and blood yielded *Salmonella marina*, but a stool culture was negative for this organism.

The patient was initially treated with a 2-week course of ciprofloxacin, but her UTI relapsed within 1 month after treatment was stopped. A subsequent 3-week course of ciprofloxacin, followed by an additional 3-week course of trimethoprim-sulfamethoxazole after an adverse reaction to ciprofloxacin, led to long-term cure. Cultures of the patient’s urine remain negative 9 months after retreatment. Culture of stool from her pet green iguana was positive for *S. marina*. The animal subsequently died of an unrelated cause. She has not replaced this pet.

The second patient was a 21-year-old healthy female who presented with acute cystitis due to *Salmonella montevideo*. Cultures of blood and stool were negative for *S. montevideo*. She was treated with a 14-day course of trimethoprim-sulfamethoxazole but had two subsequent relapses; both relapses were treated with ciprofloxacin. She remains well 9 months after treatment.

This patient often played with her boyfriend’s two pet green iguanas. One iguana was well, and the other had been anorectic and withdrawn and had a distended abdomen. It died shortly after she became ill, and specimens were not obtained for culture. Cultures of specimens from the living iguana were negative for *S. montevideo*.

In view of the report by Ramos et al., the findings in these two cases of salmonella UTI following exposure to iguanas raise several issues. With the growing popularity of keeping reptiles as pets [8], particularly the inexpensive green iguana, humans are being increasingly exposed to the risk of acquiring *Salmonella* species from their pets. These reptiles frequently carry and shed *Salmonella* species asymptptomatically [9].

In the event a patient presents with salmonella UTI or salmonellosis of unknown origin, a thorough history of exposure to reptiles must be sought. This is particularly important for patients who are immunocompromised [10]. UTIs due to *Salmonella* species may be difficult to treat, requiring multiple and/or prolonged courses of antimicrobial therapy, particularly if the patient is immunosuppressed or has an abnormal urinary tract. It would seem prudent to advise immunocompromised individuals against having reptiles as pets [10].

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References


