Salmonella Enteritidis Infection in Guinea Pigs

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In the Literature

Robertson S, Burakoff A, Stevenson L, et al. Notes from the field: recurrence of a multistate outbreak of *Salmonella* enteritidis infections linked to contact with guinea pigs – eight states, 2015-2017. *MMWR Morb Mortal Wkly Rep.* 2018;67(42):1195-1196.

FROM THE PAGE ...

Although most cases of human salmonellosis in the United States have been attributed to contamination of food with animal feces,[1] cases of human salmonellosis associated with pet rodents have been documented.[1-3] This report discussed an 8-state outbreak of *Salmonella* enteritidis infection associated with guinea pigs that resulted in illness in 9 humans on or after January 1, 2015. One hospitalization and no deaths were recorded. Cases were identified as a result of an investigation that began after 2 human cases of *Salmonella* enteritidis were reported in 2017 and were found to be indistinguishable from a *Salmonella* strain responsible for a 2010 outbreak also connected to guinea pigs.[1]

Some guinea pigs that caused infection in the humans from the more recent outbreak came from the same wholesaler that supplied guinea pigs to pet stores in the 2010 outbreak; this emphasizes the difficulties in enforcing proper animal husbandry, welfare, and infection prevention in licensed and unlicensed operations. The pathway from breeder to final home for guinea pigs may involve breeders, vendors, distributors, retailers, significant handling, and lengthy, fragmented transportation, all of which may induce stress in the animal and potential shedding of *Salmonella* spp.

Multiple points along the supply chain can serve as sources of *Salmonella* spp infection for naïve guinea pigs (eg, commingling with infected animals, contaminated bedding).[4] Shedding may occur with or without concomitant clinical signs.[1,3] Morbidity and mortality are variable[3] and may include subacute illness with severe diarrhea, emaciation, abortion, and/or sudden death.[2] Guinea pigs may harbor subclinical infections and shed *Salmonella* spp intermittently for weeks to months.[3] Prophylactic use of antimicrobials is not uncommon in the rearing of rodents for sale and can lead to multidrug-resistant *Salmonella* spp in guinea pigs[4] and therefore humans.[3]

Pet rodents are likely an underrecognized source of *Salmonella* spp infection in humans[2]; clinicians and pet store staff should educate owners on the risks of rodent ownership and on prevention measures (eg, frequently discarding pet feces; regularly changing bedding; thoroughly washing hands with soap and water for a minimum of 20 seconds after being in contact with the animal, cage, bedding, or food; supervising hand-washing in children and their handling and caring of rodents; discouraging eating while handling pets; discouraging kissing and holding animals close to the mouth).[1,3,4]

… TO YOUR PATIENTS

Key pearls to put into practice:

1. Clinicians, breeders, and distributors should consider submitting specimens for *Salmonella* spp isolation when substantial diarrhea-associated morbidity or mortality occurs in rodents intended for sale.[4]
2. Clinicians should advise owners of the risks of guinea pig ownership and educate them on the basic precautionary measures to protect them from *Salmonella* spp and other zoonoses.[2]
3. Treating guinea pigs to eliminate carriage of *Salmonella* spp is not reliably successful[2] and may prolong shedding[5] and thus is not recommended.

References

1. Robertson S, Burakoff A, Stevenson L, et al. Notes from the field: recurrence of a multistate outbreak of *Salmonella* enteritidis infections linked to contact with guinea pigs – eight states, 2015-2017. *MMWR Morb Mortal Wkly Rep*. 2018;67(42):1195-1196.
2. Bartholomew ML, Heffernan RT, Wright JG, et al. Multistate outbreak of *Salmonella enterica* serotype enteritidis infection associated with pet guinea pigs. *Vector Borne Zoonotic Dis*. 2014;14(6):414-421.
3. Fish NA, Fletch AL, Butler WE. Family outbreak of salmonellosis due to contact with guinea pigs. *Can Med Assoc J*. 1968;99(9):418-420.
4. Swanson SJ, Snider C, Braden CR, et al. Multidrug-resistant *Salmonella enterica* serotype *typhimurium* associated with pet rodents. *N Engl J Med*. 2007;356(1):21-28.
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