

NEWS FROM THE PIT

Arizona Poison and Drug Information Center



Snake Pills...or Snake Oil?

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Imagine it's 1982. You are working in a hospital and get notified that one of your patient's lab results is back. There is an uncommon type of *Salmonella*, a bacteria, growing in their blood. Surprisingly, this is the second case with these specific bacteria you've had this week and the third case since last month. But what the heck is *Salmonella*, and where is it coming from? After another hospital nearby starts to report the same findings, you realize this is more than a coincidence.

Between 1980 and 1987, there were about 18 cases of *Salmonella* infections reported each year in Los Angeles County. After noticing a troubling outbreak of these infections, patients were interviewed to find the common source of the illness. As it turned out, most patients had recently taken something called rattlesnake pills, or pastillas de víbora de cascabel. When the products were tested, they were found to be the source of the bacteria. But this isn't the only time this has happened. In 2017 and 2018, there were additional cases of uncommon *Salmonella* infections related to rattlesnake pills that happened in Texas and Kansas.

NEWSLETTER HIGHLIGHTS

Use of rattlesnake pills

Image 1: Black-tailed Rattlesnake
(*Crotalus molossus*)

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Salmonella is a type of harmful bacteria that can cause severe digestive symptoms like vomiting, pain, and diarrhea. It's not commonly seen because our immune system is pretty good at getting rid of these bacteria before they multiply and make someone sick. However, for patients with immune systems that don't work as well, like someone on chemotherapy for example, these bacteria can quickly grow to be overwhelming. In these patients, the symptoms can be much worse and even deadly.

So how does *Salmonella* get into the pills? It was already there from the beginning. *Salmonella* naturally lives in the stomach and intestines of rattlesnakes, just like many other animals. The pills are made from cooked rattlesnake meat that is powdered and put into pills. If it's not prepared right, the bacteria can survive even after the rattlesnake meat is ground up. It's like cooking chicken. If you cook it all the way through at the right temperature, it will be safe to eat. But if you don't cook it long enough, at the right temperature, or if it wasn't fresh enough, you can get sick. Chicken carries the same bacteria, *Salmonella*!

Eating or using rattlesnake meat for various reasons has been culturally practiced for many years in areas with rattlesnakes. Today, rattlesnake pills are used by some as a way to continue those cultural practices. This highlights the importance of taking a good social history in healthcare settings. These pills are considered dietary supplements. They are sold online and mostly come from Mexico. When you buy rattlesnake pills, it's impossible to know if the snake meat was stored or prepared correctly. The Food and Drug Administration (FDA) regulates food, drugs, and dietary supplements in the United States. There are many rules that control the way we store, ship, and package food to help keep us safe, including the chicken we talked about earlier. Medications are rigorously reviewed and scrutinized by the FDA prior to being given to patients. In the eyes of the FDA, dietary supplements fall closer to foods than medications. There is no FDA approval process for dietary supplements prior to them being sold to patients. If patients develop side effects or issues after using dietary supplements, then the FDA will get involved to review the supplement in question.

The poison center does not endorse the consumption of rattlesnake pills due to lack of established benefits. However, if you use rattlesnake pills, be aware of the risks involved and tell your healthcare providers that you are using this product when they ask which medications and dietary supplements you use. Similarly, we encourage healthcare providers to include specific questions about dietary supplements when gathering information about a patient's home medications.

