Salmonella Enterica Spp.

Salmonella enterica spp. is a gram negative rod that causes salmonellosis. Animals and humans can both serve as reservoirs for this bacterium; it can also be spread through uncooked poultry and raw eggs. Patients infected with Salmonella enterica have an immune responsive increase in PMNs. Symptoms of salmonellosis include GI distress, with potentially bloody diarrhea. Antibiotics are not recommended for treatment, as they prolong the carrier state. Moreover, there are no vaccines to prevent this infection, unlike Salmonella typhi.



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Characteristics

Animal and Human Reservoir
Animals and Humans at Reservoir
Animal reservoirs are most commonly chickens, turtles, and other reptiles. Humans may carry the bacteria in their GI tract and excrete it in their feces. Salmonella bacteria are also capable of living in water for several weeks and in the soil for several months.

Poultry and Eggs
Chicken-leg and Eggs
When humans consume poultry and eggs, they should cook both thoroughly as bacteria will remain in undercooked food.

Turtles
Turtle
Salmonella bacteria naturally exist in the GI tract of turtles and other reptiles. Keeping pet turtles exposes one to Salmonella especially in small children who may put the turtle in their mouth; this is the reason why the FDA bans the sale of turtles with shells less than four inches long.

PMN Immune Response
Polly-Morphing-Nucleus In-moon
In disseminated disease, a steep increase in polymorphonuclear leukocytes (PMNs) like neutrophils occurs to fight off the bacteria; this is known as a “left shift” on a CBC differential. In contrast, in individuals infected with Salmonella typhi, monocytosis occurs.

Symptoms

Gastroenteritis
Toilet-on-fire
Salmonella enterica is known to cause gastroenteritis; patients have classic GI symptoms like nausea, vomiting, diarrhea, and cramps.

Diarrhea
Toilet
Salmonella infection may cause watery diarrhea initially that later becomes bloody. This diarrhea is often self-limiting but supportive care with oral rehydration therapy is always recommended

Possibly Bloody
Red Toilet
Depending on the depth of invasion into the GI tract, salmonellosis may cause bloody diarrhea.

Treatments

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No Antibiotics

No-sign ABX-guy

Antibiotics are not routinely recommended, and may result in a prolonged carrier state with multidrug resistant Salmonella. If an infection persists, first-line agents include fluoroquinolones.

No Vaccine Available

No-sign Vaccination-syringe

Unlike Salmonella typhi, no vaccines are available. Prophylaxis includes proper hand hygiene, limiting exposure to turtles and other reptiles, and cooking food thoroughly to avoid ingesting raw poultry products.

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