

Understanding Typhoid Fever: An Infectious Disease Linked to Sanitation

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DESCRIPTION

Typhoid fever is a serious infectious disease that has affected human populations for centuries, particularly in regions with poor sanitation and limited access to clean water. Caused by the bacterium *Salmonella enterica* serovar Typhi, typhoid fever remains a significant public health concern in many developing countries despite advances in medicine and hygiene. The disease spreads primarily through contaminated food and water and is closely linked to inadequate waste disposal and unsafe drinking water.

The transmission of typhoid fever occurs when food or water contaminated with human feces containing *Salmonella Typhi* is ingested. Once inside the body, the bacteria pass through the intestines and enter the bloodstream, where they multiply and spread to organs such as the liver, spleen, and bone marrow. Crowded living conditions, poor hand hygiene, and lack of access to clean water greatly increase the risk of infection. Historically, typhoid fever caused devastating outbreaks in cities and military camps, where sanitary conditions were poor.

The symptoms of typhoid fever typically develop gradually over one to three weeks. Early signs include persistent high fever, weakness, headache, loss of appetite, and abdominal discomfort. As the disease progresses, patients may experience diarrhea or constipation, nausea, and a characteristic rash of small pink spots known as “rose spots,” usually appearing on the chest or abdomen. In severe cases, typhoid fever can lead to intestinal bleeding, perforation, and life-threatening complications if left untreated.

Diagnosis of typhoid fever can be challenging because its symptoms resemble those of many other febrile illnesses. Laboratory tests are essential for accurate diagnosis. Blood cultures are commonly used in the early stages of the disease to detect *Salmonella Typhi*. Stool and urine samples may also be tested, particularly in later stages. Early diagnosis is critical, as prompt treatment significantly reduces the risk of complications and death.

Treatment of typhoid fever primarily involves antibiotic therapy. Over the years, effective antibiotics have dramatically reduced

mortality rates associated with the disease. However, the emergence of antibiotic-resistant strains of *Salmonella Typhi* has become a major challenge. Multidrug-resistant and extensively drug-resistant typhoid strains limit treatment options and require the use of newer or more expensive antibiotics. Supportive care, including adequate hydration, proper nutrition, and fever management, plays a vital role in recovery.

Prevention is the most effective strategy for controlling typhoid fever. Improving sanitation, ensuring access to clean drinking water, and promoting good personal hygiene are fundamental public health measures. Handwashing with soap, proper food handling, and safe waste disposal significantly reduce the risk of transmission. Vaccination is another important preventive tool. Several typhoid vaccines are available and are recommended for individuals living in or traveling to high-risk areas. Widespread vaccination programs have proven effective in reducing disease incidence.

Typhoid fever also highlights the importance of public health surveillance and education. Identifying carriers individuals who harbor the bacteria without showing symptoms is essential, as they can unknowingly spread the disease. Historical cases such as “Typhoid Mary” demonstrate the role of asymptomatic carriers in disease transmission. Modern public health strategies focus on early detection, treatment, and monitoring to prevent outbreaks.

CONCLUSION

In conclusion, typhoid fever is a preventable and treatable disease that continues to affect millions of people worldwide. Caused by contaminated food and water, it reflects the close relationship between health, sanitation, and socioeconomic conditions. Advances in antibiotics, diagnostics, and vaccines have significantly reduced its impact, yet challenges such as antibiotic resistance and limited infrastructure persist. Continued efforts in public health, sanitation, and education are essential to ultimately control and eliminate typhoid fever.

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