**TYPHOID**

**Typhoid** (Greek typhodes = smoke) fever is a food or water borne disease that is caused by several virulent serovars of ***Salmonella typhi***, a bacilli bacterium. The disease mainly occurs sporadically (at irregular intervals); however, it may be endemic or epidemic as well. Reports indicate about **400 to 500** cases of typhoid fever in the United States per annum. In 1972, a typhoid epidemic swept through Mexico producing 100,000 infections and 14,000 deaths. In India, around **0.15% - 3%** of the population gets affected by the disease and it is mainly common among **5-20** year age group.

**Transmission and mechanism of action**: The disease is transmitted by ingestion of food or water contaminated by feces of infected humans or animals. *Salmonella typhi* enters and colonize the small intestine where it incubates for10 to14 days. Even a very low dose is sufficient to cause the infection where infective dose is ≥107 organisms. The bacteria penetrate the epithelium (forming ulcers) and enter the lymphatic system and spreads to the lymphoid tissue, blood, liver, and gallbladder through the circulatory system. It persists to multiply within the phagocytic blood cells by invading the mononuclear phagocyte system. In addition to the damage caused in liver and gallbladder; kidneys, spleen and lungs also sometimes get affected. The most famous carrier of the typhoid bacterium was “Mary Mallon”. She worked as a cook in seven homes in New York City where a total of twenty eight cases of typhoid fever were reported. Examination of her stools showed that she was shedding large numbers of typhoid bacteria without exhibiting any visual symptom. An article published in 1908 in the Journal of the American Medical Association referred to her as “Typhoid Mary,” an epithet by which she is still known today. She managed to escape and cooked for another five years even when she was not permitted to do so. As a lifetime carrier, Mary Mallon was positively linked with 10 outbreaks of typhoid fever, 53 cases, and 3 deaths. Eventually she was arrested and held in custody for 23 years until she died in 1938.

**Symptoms**: Patients suffer high fever (104°C), headache, abdominal pain and discomfort, which last several weeks. The shedding of bacteria in feces mostly lasts for approximately three months. However, a few individuals continue to shed S. typhi for extended periods but show no symptoms. In these carriers, the bacteria continue to grow in the gallbladder and reach the intestine through the bile duct.

**Treatment**: The typhoid fever is examined by demonstration of typhoid bacilli in the blood, urine, or stools and serology in the laboratory. The death rate has been reduced with ceftriaxone, trimethoprim-sulfamethoxazole, or ampicillin to less than 1%. Once an individual gets recovered from the disease, lifetime resistance is developed. Proper sewage disposal, purification of drinking water, milk pasteurization, prevention of food handling by carriers, and complete isolation of patients are the most successful prophylactic measures. Chloramphenicol is no more considered as an effective drug, since bacteria gas developed immunity towards it. However, cephalosporins, ceftriaxone, cephotaxime and cefoperazone are the good options available where ceftriaxone is considered to be the most successful.