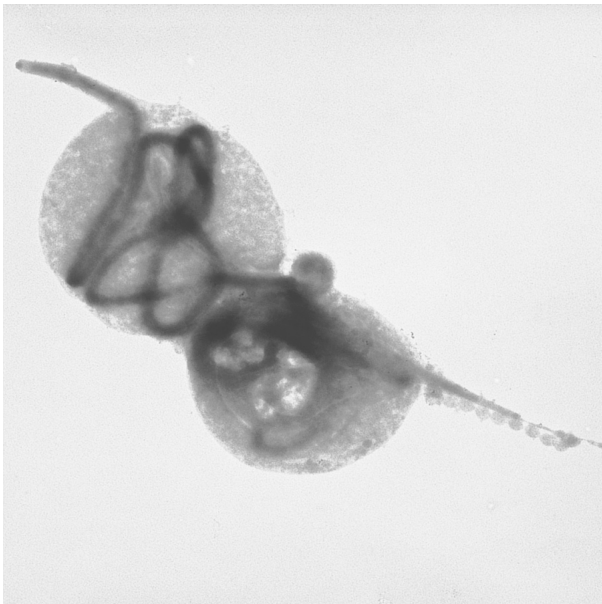


Keywords

- Molecular Pathogenesis
- Immunology
- Infectious Diseases



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Persistent Infections of Bacterial Pathogens in the Mammalian Host

A slowly developing clinical course is often characteristic for bacterial infections that were discovered during the last two decades, e.g. Lyme borreliosis and Helicobacter infection. In his context people realized, that *Borrelia burgdorferi*, the causative agents of Lyme borreliosis, establishes the infection with a low number of organisms during a long time period without inducing severe clinical signs initially. Symptoms become apparent, when the microorganisms invade specific tissues and get in close contact with resident host cells. Tissues with such qualities are the synovial membranes in the joints, the surrounding tissues of the peripheral and central nervous system, or the pericardium. Distinct acute inflammatory responses due to a massive leukocyte accumulation are then the result of the close host-bacteria-interaction. For that reason one of the most important questions to be asked is which specific anatomical, biochemical and immunological features distinguish these tissues from others and allow them to respond so vehemently to bacterial invasion? Furthermore, what are the relevant conditions that are needed by the bacteria to establish a long-term survival at the same location? How do the microorganisms evade and survive the attacks executed by the host's immune system? These questions and the appropriate answers will lead us to a process in which we will discover molecules and mechanisms that are of significant importance for the development of these persistent bacterial infections. They also should help us to find most suitable therapies to fight the infections.

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