



Unraveling the Complexity of Haemorrhagic Septicaemia: A Comprehensive Exploration of the Disease

Lucas Barry*

Department of Veterinary Disease Biology, University of Copenhagen, Denmark

DESCRIPTION

Haemorrhagic Septicaemia (HS), a highly contagious and often fatal bacterial disease, poses a significant threat to livestock populations, particularly cattle and buffalo. Caused by the bacterium *Pasteurella multocida*, this disease has a profound impact on the agricultural sector, leading to economic losses and challenges in livestock management. In this comprehensive article, we will delve into the various facets of haemorrhagic septicaemia, including its etiology, clinical manifestations, diagnosis, treatment, and prevention strategies. Haemorrhagic septicaemia is primarily caused by *Pasteurella multocida*, a Gram-negative bacterium known for its ability to infect a wide range of domestic and wild animals. This bacterium exists in various serotypes, each exhibiting unique characteristics and virulence factors. Serotypes B:2 and B:5 are the most commonly associated with haemorrhagic septicaemia, and their prevalence can vary regionally. Transmission of *Pasteurella multocida* typically occurs through direct contact with infected animals or their secretions, such as nasal discharges and saliva. The bacterium can also survive in the environment for a certain period, contributing to indirect transmission through contaminated feed, water, and fomites. Factors such as overcrowding, transportation stress, and poor animal hygiene practices can exacerbate the spread of the disease within herds. Haemorrhagic septicaemia is characterized by a sudden and acute onset of clinical signs, making early detection crucial for effective intervention. The disease can progress rapidly, with affected animals often succumbing to the infection within a short period. Clinical manifestations of haemorrhagic septicaemia include respiratory symptoms such as rapid and labored breathing, nasal discharge, and coughing. Additionally, affected animals may exhibit systemic signs such as fever, depression, anorexia, and a rapid decline in overall body condition. One of the defining features of haemorrhagic septicaemia is the presence of characteristic hemorrhages. These may mani-

fest as bloody nasal discharge, discolored mucous membranes, and ecchymotic or petechial hemorrhages on various internal organs. The severity of these hemorrhagic manifestations can vary, contributing to the diversity of clinical presentations. Clinical evaluation forms the initial step in diagnosing haemorrhagic septicaemia. Veterinarians assess the characteristic clinical signs, including respiratory distress, fever, and the presence of hemorrhages. However, reliance solely on clinical signs may pose challenges due to the disease's rapid progression and similarity to other respiratory conditions. Laboratory techniques play a pivotal role in confirming the diagnosis of haemorrhagic septicaemia. Post-mortem examinations, bacterial isolation, and identification of *Pasteurella multocida* from affected tissues are essential diagnostic steps. Additionally, serological tests, such as Enzyme-Linked Immunosorbent Assay (ELISA), aid in detecting antibodies against the causative bacterium. Advancements in molecular diagnostics, including Polymerase Chain Reaction (PCR) assays, have enhanced the speed and accuracy of haemorrhagic septicaemia diagnosis. These techniques enable the specific identification of *Pasteurella multocida* and its serotypes, facilitating targeted and rapid responses. Antibiotic therapy is a cornerstone in the treatment of haemorrhagic septicaemia. Early administration of broad-spectrum antibiotics, such as oxytetracycline and florfenicol, is crucial for controlling bacterial proliferation and preventing systemic dissemination. However, the effectiveness of antibiotic treatment depends on the rapid initiation of therapy and the stage of disease progression.

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CONFLICT OF INTEREST

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Corresponding author Lucas Barry, Department of Veterinary Disease Biology, University of Copenhagen, Denmark, E-mail: macetessa@vet.auth.gr

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