The Research of Medical Science Review

Received: 25 October, 2024
Accepted: 25 November, 2024
Published: 04 December, 2024

ISSN: 3007-1208 | 3007-1216
Volume 2, Issue 3, 2024

COLIC A FATAL DISEASE OF EQUINES

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ABSTRACT

Colic is the primary cause of morbidity and mortality in horses, and its management poses a considerable challenge in veterinary medicine. The condition is multifaceted and is influenced by nutrition, stress, genetic predispositions, and environmental variables. Despite comprehensive studies, deficiencies persist in elucidating the precise pathophysiology of colic, especially the influence of microbial dysbiosis and alterations in stomach pH. Horses are hindgut fermenters, and alterations in the gut flora, frequently induced by dietary modifications such as excessive starch intake, can intensify colic symptoms. This review analyzes the correlation between microbial dysbiosis, alterations in pH, and immune system impairment in the etiology of colic. This review will examine the substantial obstacles to detecting and controlling colic, particularly in low-resource environments where access to advanced diagnostic instruments and therapies is constrained. This review emphasizes the prospective contributions of next-generation sequencing and metagenomics to enhance our understanding of the equine gut microbiome and its influence on colic. The principal findings indicate that stress, inadequate feeding habits, and deworming techniques may influence alterations in the gut flora, resulting in heightened vulnerability to colic. There is an urgent need for additional studies on the interaction between the immune system and microbiome in the development of colic, as well as on effective management techniques to prevent these imbalances. This study includes multiple recommendations for future research, concentrating on preclinical and clinical trials to investigate the therapeutic potential of microbiota manipulation in equine colic. Enhancing the comprehension of the microbial and

immunological mechanisms underlying colic will yield significant insights into advancing diagnostic methodologies and therapeutic approaches, especially in resource-limited settings.
***Keywords**: Equine colic, microbial imbalance, pH changes, gut microbiome, immune response, prevention strategies, low-resource settings*