STUDY OF RENAL PATHOLOGIES AND THE IMPLICATIONS OF RENAL FUNCTION IN THE HOMEOSTASIS OF BIRDS

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Abstract

Renal pathologies in birds are an area of major interest in avian medicine, with direct implications for health and productive performance. The anatomical and physiological characteristics of the excretory system make it difficult to assess renal function, as urine sampling is not feasible in practice. Thus, blood biochemical analyses are the main method of ante-mortem diagnosis, being used to identify hyperuricemia, gout, nitrogen metabolism disorders, and other renal pathologies, but also to monitor physiological status on poultry farms. However, most kidney diseases are detected late, most often post-mortem, through morphohistological examination. Undetected kidney diseases cause significant disturbances in nitrogen metabolism, with a direct impact on homeostasis, and on morbidity and mortality at the herd level. In this context, phytotherapy emerges as a valuable adjuvant strategy, helping to support the growing organism and optimize hydration. This paper provides a summary of the latest data on renal physiology in birds and associated pathologies, with a focus on species of economic interest, such as the ROSS 308 broiler. The role of serum biomarkers in assessing renal function, current prevention strategies, and the research directions needed to implement solutions adapted to intensive farming systems are highlighted.

Key words: *broilers, renal pathologies, nitrogen metabolism, phytotherapy, serum biomarkers*