

Review Form2

Book Name:	Innovations in Biological Science
Manuscript Number:	Ms_BPR_1965
Title of the Manuscript:	ACUTE PHASE REPONSE IN DOGS
Type of the Article	Book chapter

PART 1: Review Comments

<u>Compulsory</u> REVISION comments	Reviewer's comment	Author's Feedback(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimumof 3-4 sentences may be required for this part.	As a reviewer, I like this manuscript and recommend it as a valuable contribution to the field. It provides important insights into the use of acute phase proteins and serum biomarkers for diagnosing and managing pyometra in female dogs. This research is particularly useful for veterinarians, offering practical tools for improving clinical care and treatment outcomes.	
Is the title of the article suitable? (If not please suggest an alternative title)	Not suitable? "Pyometra and Ovariohysterectomy: Effects on Acute Phase Response and Serum Biomarkers in Female Dogs"	

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Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	Not comprehensive and doeast not reflect book chapter introduction Suggestion: **Introduction** The acute phase response is a fundamental component of the body's defense mechanism, designed to mitigate further organ damage, isolate and eliminate infectious agents, remove harmful molecules and cellular debris, and activate repair processes essential for restoring normal organ function. This response is mediated by cytokines, which interact with receptors on various target cells throughout the body. The activation of these cytokine receptors triggers a systemic reaction, including the stimulation of the hypothalamic-pituitary-adrenal axis and a concurrent decrease in growth hormone secretion. These physiological changes are crucial for managing infection and inflammation, and for ensuring that the body can recover from stressors effectively. In veterinary medicine, understanding the acute phase response is particularly important for diagnosing and managing conditions such as pyometra, a severe uterine infection that predominantly affects unspayed female dogs. Pyometra induces a profound inflammatory reaction that significantly impacts systemic health. This condition, coupled with the surgical treatment of ovariohysterectomy (spaying), leads to notable alterations in acute phase proteins and biochemical parameters in the serum. Pyometra triggers a systemic inflammatory response, characterized by elevated levels of acute phase proteins such as C-reactive protein (CRP) and Serum Amyloid A (SAA). These biomarkers are released in response to the infection and inflammation and serve as indicators of the severity of the condition. The subsequent ovariohysterectomy, necessary for treating pyometra, introduces additional stress to the body, further influencing the levels of these biomarkers and various biochemical parameters. This chapter delves into the effects of pyometra and ovariohysterectomy on acute phase proteins and serum biochemistry in female dogs. By analyzing the changes in CRP, SAA, and other biochemical markers, we aim to elucidate the systemic impact of these conditions and treatments. The findings highlight the importance of monitoring these biomarkers as diagnostic and management tools, providing veterinarians with critical information for the effective treatment and care of female dogs affected by pyometra. This comprehensive examination underscores the complexity of the acute phase response and its role in understanding the broader implications of infection, inflammation, and surgical intervention in veterinary practice.	
Are subsections and structure of the manuscript appropriate?	Subsection Introduction to changed to Overview and it is quite short for book chapter need to be elaborated Overview: **Overview** The study of inflammation, a fundamental physiological response to harm, has deep historical roots. The earliest known records of inflammatory processes come from ancient Egypt, where hieroglyphs on the Smith Papyrus, dated around 1650 BCE, provide a glimpse into early medical understanding of inflammation (Allen, 2005). These ancient records illustrate that even in antiquity, there was recognition of the body's reaction to injury and disease. By the first century CE, Roman physician Aulus Cornelius Celsus had articulated the classical signs of local inflammation, which remain foundational to our understanding today: calor (heat), dolor (pain), rubor (redness), and tumor (swelling). His descriptions highlighted the visible and palpable changes that occur in inflamed tissues. Approximately a century later, Galen, another prominent physician, expanded this framework by adding a fifth cardinal symptom, functiolaesa (impaired function). This	

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	addition underscored the impact of inflammation not just on the appearance and sensation of tissues but also on their functional capacity (Goebel, 2011). These classical signs of inflammation reflect a universal and nonspecific response of the body to a variety of harmful stimuli. Regardless of the specific cause, the inflammatory response represents a fundamental aspect of how organisms react to injury, infection, or other noxious agents. This response is not limited to a specific type of harm but is a general mechanism for addressing a range of etiological factors. Inflammation is essentially a collective tissue response that unfolds in response to a noxious agent, driven by predetermined patterns of behavior at both the tissue and organism levels. These patterns are conserved across species, highlighting their critical role in maintaining homeostasis. They represent an existentially important homeostatic mechanism designed to address and counteract harmful stimuli. Throughout an organism's life, it encounters various harmful noxae—be they infectious agents, physical damage, or other stressors. The primary task of the inflammatory reaction is to limit or eliminate these threats and to remove damaged tissue, thus facilitating healing and restoration of normal function (Kovač, 1998). The early phase of this general response, known as the acute phase response (APR), is crucial for managing the immediate aftermath of injury or infection. This response typically unfolds over a period ranging from a few hours to several days and is instrumental in determining the course and ultimate outcome of the injury. The APR involves systemic and local changes designed to address disturbances in homeostasis caused by a variety of factors, including infections, parasitic infestations, tissue damage, trauma, surgery, neoplastic growths, and immune disorders (Galezowski et al., 2010; Serin&Ulutas, 2010). This phase of the response is characterized by a range of physiological adaptations aimed at mitigating the effects of the noxious agent and restoring balance within the organism. Understanding these historical and physiological foundations provides a comprehensive backdrop for examining the role of inflammation in various medical and veterinary contexts, including the impact of conditions such as pyometra and the acute phase response in female dogs.	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	This manuscript is scientifically robust and technically sound due to its thorough analysis of pyometra and ovariohysterectomy effects on acute phase proteins and biochemical parameters in female dogs. It employs established biomarkers like CRP and SAA, ensuring clear insights into the inflammatory response. The study's methodological rigor and clinical relevance validate its findings, demonstrating strong scientific accuracy.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	Yes	

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Minor REVISION comments		
Is the language/English quality of the article suitable for scholarly communications?	Yes	
Optional/General comments	The subtitle "Acute Phase Proteins DURING PYOMETRA IN DOGS" requires a more detailed and narrative-driven treatment to enhance readability and engagement. Additionally, the use of the abbreviation "APP" for acute phase proteins at the beginning of the subtitle or paragraph is linguistically incorrect and should be avoided. The chapter currently lacks a clear conclusion or closing paragraph, which is essential for summarizing key points and providing closure. Furthermore, the writing style needs to be adapted from a thesis or scientific paper format to a book format, which should focus on presenting facts, experiences, and practical directions rather than numerical data and comparisons. To stand out, the book chapter should leverage the writer's skill to deliver unique and compelling insights that engage the reader effectively.	

PART 2:

	Reviewer’s comment	Author’s comment(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	(If yes, Kindly please write down the ethical issues here in details)	

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