



Cairo University

Cairo University
Faculty of Veterinary Medicine
Department of Medicine and Infectious Diseases



Evaluation of Oxidative Stress Biomarkers for Diagnosis of Selected Gastrointestinal Diseases of Dogs

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(For degree of master Internal medicine)

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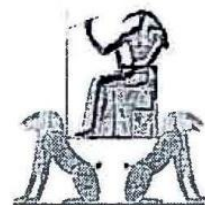
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Approval sheet

This is to approve that the dissertation presented by Mrs. Noha Mohamed Elsayed Darwish to Cairo University entitled:

**EVALUATION OF OXIDATIVE STRESS BIOMARKERS FOR
DIAGNOSIS OF SELECTED GASTROINTESTINAL DISEASES OF
DOGS**

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SUPERVISION SHEET

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ABSTRACT

Gastrointestinal disorders are one of the most common affections encountered in veterinary canine practice and reasons for seeking veterinary assistance in small animal practice. They have multiple etiologies to occur for example food indiscretions, allergies, drug interactions, viral, bacterial, and parasitic infection. The most signified signs are vomiting and diarrhea. This current study targeted to estimate alteration on hematology and oxidative stress biomarkers in selected gastrointestinal diseases. This study enrolled 64 dogs, divided into 22 apparently healthy dog served as control and 42 diseased dogs (14 suffered from canine parvovirus enteritis; 10 dogs with gastroenteritis caused by parasitic infection; 10 Suffered from gastritis and 8 Suffered from enteritis).

Blood samples were collected from each animal for clinical hematology, oxidant biomarkers MDA, H_2O_2 and antioxidant biomarkers SOD, GPX, Catalase, TAC, Zn, Cu, iron. Cortisol level, Cl and k were also estimated in serum. Dogs with parvovirus infection showed increase in MDA, H_2O_2 , SOD, GPX, and decrease of catalase, Zn, Cu and Fe. Increased SOD, MDA, and cortisol, with decrease in GPx, catalase, Cu, Zn and Fe were recorded in both gastritis group and enteritis group. However, H_2O_2 level decreased in gastritis and increased in enteritis group. In dogs with gastroenteritis caused by parasitic infection, drop in hemoglobin, PCV, catalase and GPx along with rise in SOD and cortisol were recorded. In conclusion, alteration in oxidant stress biomarkers is associated with presented gastrointestinal disorders.

Key words: oxidative stress biomarker, canine, Malondialdehyde, SOD, GPx.

DEDICATION

To my dear father, my mother soul, lovely husband, who always encourage and supported me and to my amazing kids Fares and Ghena. I love to dedicate this work to all of you.

Thank you for everything.

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