RADIOPROTECTIVE ROLE OF ANTIOXIDANT VITAMINS IN IRRADIATED ALBINO-MICE

By

Vet. Med. Doctor/ SAMEH SOLIMAN MOHAMED TAWFIK

B.Sc. Vetrinary Medicine Sciences
Faculty of Vet. Med. - Cairo University , 1982

A thesis submitted in partial fulfilment

Of

The requirements for the Master Degree

in

Environmental Science
Department of Medical Sciences

Institute of Environmental Studies and Research
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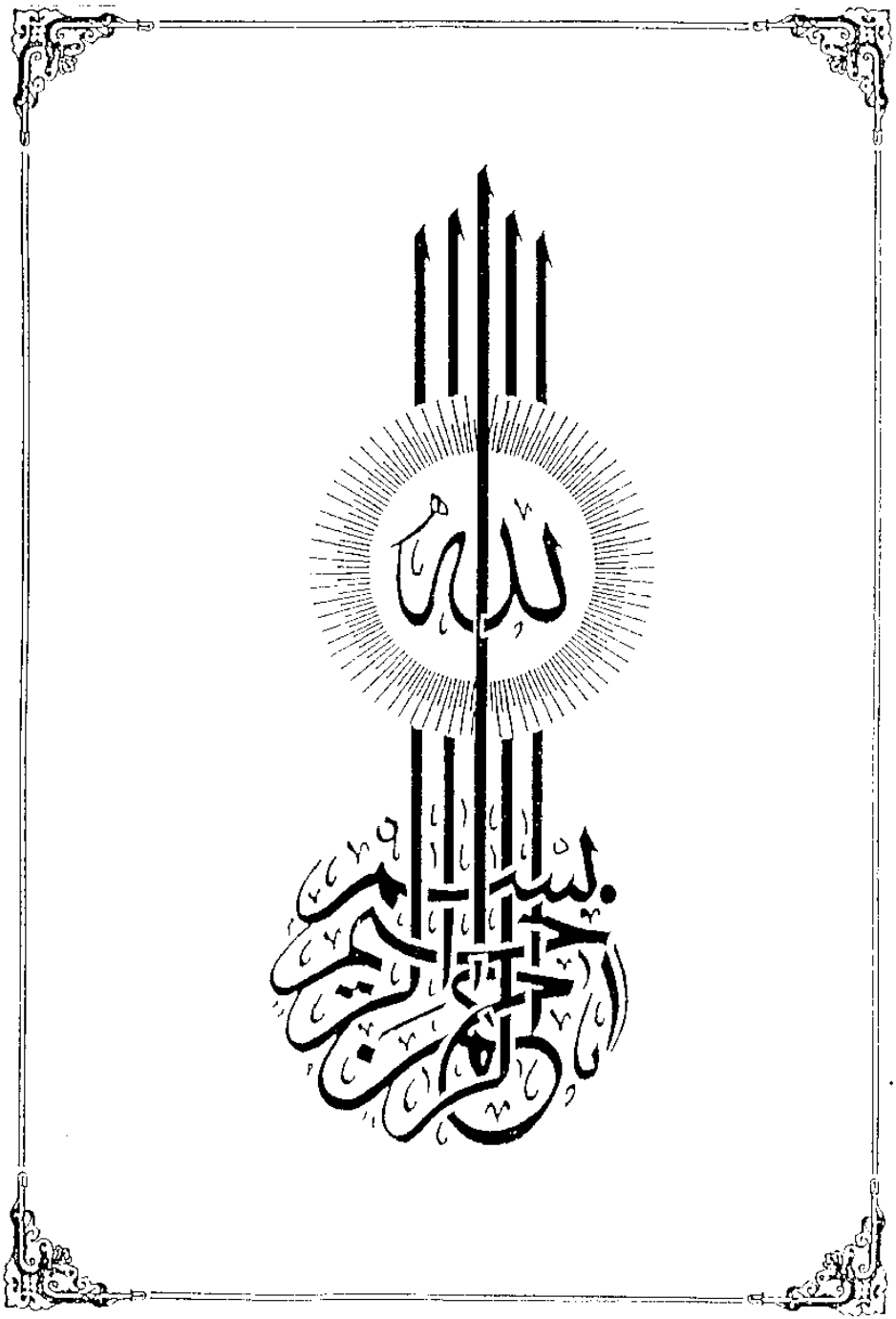
1998



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By
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National Center For Radiation Research and Technology
Atomic Energy Authority

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Thesis Submitted For M.Sc. Degree in Environmental Sciences-Department of Medical Sciences.

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Date of disscusion : 15/4/1998

Higher studies and Research

Approval of the council of the Institute

Approval of the council of the university

Abstract

Sameh Soliman Mohamed Tawfik

RADIOPROTECTIVE ROLE OF ANTIOXIDANTS VITAMINS IN IRRADIATED ALBINO-MICE

M.Sc. Thesis, Ain Shams University (1998).
The Institute of Environmental Studies and Research.
Medical scinces department.

The protective effects of vitamin C and/or E on male mice exposed to acute sublethal dose of (3 Gy) whole body gamma irradiation were studied. These vitamins were administrated intra-peritoneally as acute doses 2 hours before irradiation.

Both vitamins significantly reduced the deleterious effects of radiation exposure on some blood components (haemoglobin, red blood cell count, total white blood cell count and neutrophil & lymphocyte counts), serum level of thiobarbituric reactive substances, relative testicular weight , sperm head abnormalities and chromosomal aberrations frequencies at different time of sacrificing (15, 24 & 36 days).

Radioprotection by vitamin C and vitamin E in compination was greater than that offerded by each vitamin alone. The propable mechanisms of radioprotection were discussed.

Key words :Gamma radiation, Vit. C, Vit. E, Mice, Blood, lipid peroxidation, testicular weight, sperm head abnormalities, chromosomal aberration.

ACKNOWLEDGMENT

At first, the prayerful thanks are to our merciful God for his help and all his gifts along our life.

I wish to express my worm appreciation to Prof. Dr. Wagida A. Anwar professor of Community, Environmental and Occupational Medicine, Faculty of Medicine, Ain Shams University. I am greatly indebted to her for suggesting and planning the subject, supervising the whole work, reading and criticizing the manuscript and for her valuable suggestions that help in directing many scattered observations into scientific channels.

Many gratitudes and thanks to Dr. Hassan A.E.El-Dawy, lecturer of cytogenetics, Department of Radiation Biology, National Center for Radiation Research and Technology. I am very grateful to him not only for valuable providing with good laboratory conditions, but also for his stimulating advice that rendered many difficulties easily surmountable.

I have no adequate word to express my sincere gratitude for the active participation of Dr. ***Mohamed Samy Soliman,*** *Lecturer of clinical pathology, National Center for Radiation Research and Technology.*

My sincere thanks to all members of Radiation Biology department, with special words of thanks to prof. Dr. Raafat Mohamed Yousri, head of the department and also, to members of Health and Radiation Research department.

This work was possible through the facilities given by the ***National Center for Radiation Research and Technology. Atomic Energy Authority.***

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