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التوثيق الالكتروني والميكروفيلم

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بالرسالة صفحات لم ترد بالاصل

ROLE OF SOME ANTIOXIDANTS IN CADMIUM TOXICITY IN ADULT ALBINO RATS

Thesis

*Submitted for partial fulfillment of M.D Degree
In Clinical Toxicology*

By

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

(هَذَا بَيَانٌ لِلنَّاسِ وَهُدًى وَمَوْعِظَةٌ لِّلْمُتَّقِينَ وَلَا تَهْنُوا وَلَا تَحْزَنُوا وَأَنْتُمُ الْأَعْلَوْنَ إِنْ كُنْتُمْ مُؤْمِنِينَ إِنْ يَمْسَسْكُمْ قَرْحٌ فَقَدْ مَسَّ الْقَوْمَ قَرْحٌ مِّثْلُهُ وَتِلْكَ الْأَيَّامُ نُدَاوِلُهَا بَيْنَ النَّاسِ وَلِيَعْلَمَ اللَّهُ الَّذِينَ آمَنُوا وَيَتَّخِذَ مِنْكُمْ شُهَدَاءَ وَاللَّهُ لَا يُحِبُّ الظَّالِمِينَ وَلِيُمَحِّصَ اللَّهُ الَّذِينَ آمَنُوا وَيَمْحَقَ الْكَافِرِينَ أَمْ حَسِبْتُمْ أَنْ تُدْخِلُوا الْجَنَّةَ وَلَمَّا يَعْلَمِ اللَّهُ الَّذِينَ جَاهَدُوا مِنْكُمْ وَيَعْلَمَ الصَّابِرِينَ وَلَقَدْ كُنْتُمْ تَمَتُّونَ الْمَوْتَ مِنْ قَبْلِ أَنْ تُلْقَوْهُ فَقَدْ رَأَيْتُمُوهُ وَأَنْتُمْ تَنْظُرُونَ)

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List of Abbreviations

ACGH	<i>Am Conference Govt Ind.</i>
ACGIH	<i>Am Conference of Govt Ind Hyg.</i>
ACI	<i>Angiotensin converting inhibitor.</i>
AIDS	<i>Acquired immunodeficiency disease.</i>
ALP	<i>Alkaline phosphatase.</i>
ALT	<i>Alanine transaminase .</i>
AMA	<i>American Medical Association.</i>
ARDS	<i>Adult respiratory distress syndrome</i>
AST	<i>Aspartate transaminase .</i>
ATSDR	<i>Agency for Toxic Substances and Disease Registry.</i>
BAL	<i>British anti lewisite.</i>
BEI	<i>Biological Exposure Indices.</i>
Bil.	<i>Bilirubin.</i>
CAT	<i>Catalase.</i>
Cd	<i>Cadmium.</i>
Cdo	<i>Cadmium oxide.</i>
CNS	<i>Central nervous system.</i>
COPD	<i>Chronic obstructive pulmonary disease.</i>
CPK	<i>Creatine phosphokinase.</i>
Creat.	<i>Creatinine.</i>
CRC	<i>Crit. Rev. Chemical.</i>
CVS	<i>Cardiovascular system.</i>
CYP	<i>Cytochrome P.</i>
Cu	<i>Copper.</i>
DMSA	<i>Dimercapto-succinic acid.</i>
DN	<i>Demylenating neuritis .</i>
DNA	<i>Dioxy neuclic acid.</i>

DOX	<i>Doxorubicin.</i>
TDPA	<i>Trisodium diethylenetriamine pentaacetic acid (Ca Na₃ TDPA).</i>
EDTA	<i>Ethylene-diamin-tetra-acetic acid .</i>
EROTC	<i>European Organization of Research and Treatment of Cancer.</i>
FDA	<i>Fedral drug approval.</i>
G6PD	<i>Glucose-6-Phosphat dehydrogenase.</i>
GIT	<i>Gastrointestinal tract.</i>
GsH	<i>Glutathion.</i>
HC	<i>Hepatitis C.</i>
HIV	<i>Human immunodeficiency virus.</i>
HSDB	<i>Hazardous Substances Data Bank.</i>
ICSCs	<i><u>International Chemical Safety Cards (ICSCs).</u></i>
IgG	<i>Imunoglobulin G.</i>
IgM	<i>Immunoglobulin M.</i>
IPCS	<i>International Programme on Chemical Safety.</i>
LD50	<i>Lethal dose for 50%.</i>
LDL	<i>Low density lipoprotein</i>
LMW	<i>Low molecular weight.</i>
MBGDT	<i>Sodium-N-(4-methoxybenzyl)-D-glucamine-N-carbodithioate.</i>
MRI	<i>Magnetic resonance image.</i>
MS	<i>Multiple sclerosis.</i>
NAC	<i>N-acetyl cysteine .</i>
NAPQI	<i>N-acetyl-p-benzoquinoneimine.</i>
NIOSH	<i>National Institute for Occupational Safety and Health.</i>
OECD	<i>Organisation for Economic Co-operation and Development .</i>
OSHA	<i>Occupational Safety and Health Administration.</i>
PEEP	<i>Positive end expiratory pressure.</i>
PEL	<i>Permissible exposure limit.</i>
PG	<i>Prostaglandin.</i>

PMS	<i>Pre-menstrual syndrome.</i>
PO2	<i>Pressure of oxygen in haemogloubin.</i>
Ppb	<i>Part per bound.</i>
Ppm	<i>Part per meter.</i>
PSA	<i>Potentiometric stripping analysis.</i>
PVC	<i>Polyvinylchloride .</i>
RDA	<i>Recommended daily allowance.</i>
ROS	<i>Reactive oxygen species.</i>
TLV	<i>Threshold Limit Values.</i>
TWA	<i>Threshold workplace allowance.</i>
USEPA	<i>US ; Emergency Planning and Notification.</i>
Vit.A	<i>Vitamin A.</i>
Vit. C	<i>Vitamin C.</i>
Vit. E	<i>Vitamin E.</i>
Zn	<i>Zinc.</i>

Introduction

Introduction

While the development of science and technology has provided great convenience, the problem of environmental pollution continues to intensify. Industrial development has resulted in an increased use of cadmium and its introduction into the environment. Cadmium (Cd) is a naturally occurring metallic element, one of the components of the earth's crust and present everywhere in our environment. Its industrial applications were developed, particularly during the first half of the 20th century, based on its unique chemical and physical properties (*Choi and Rhee, 2003*).

However, Cadmium emissions to the environment have been significantly and continuously decreasing since the 1960's. This has resulted in ever decreasing levels of cadmium in air, water and food. The potential risks to human health have been extensively studied and are now to be well controlled (*Baldrian et al., 2000*).

Furthermore, the manufacturing, use and disposal of Cd products contribute in fact to a very limited extent of total human Cd exposure. This contribution will even be further decreased due to the expected recycling growth of Cd products at their end of life (*Zhu et al., 2003*).

Cadmium is transported in blood by binding to red blood cells and low-molecular - weight proteins in plasma, particularly albumin. In acute toxicity, about 50 to 75 percent of the body burden of Cd is in the liver and kidneys, its half - life in the body is not known