

بسم الله الرحمن الرحيم



شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

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Zagazig University
Benha Faculty of Medicine
Pediatrics Department

**PLASMA ANTIOXIDANT STATUS IN RELATION TO
GESTATIONAL AGE AND OUTCOME IN PREMATURE
INFANTS**

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M.B. B. Ch

A THESIS

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SUPERVISORS

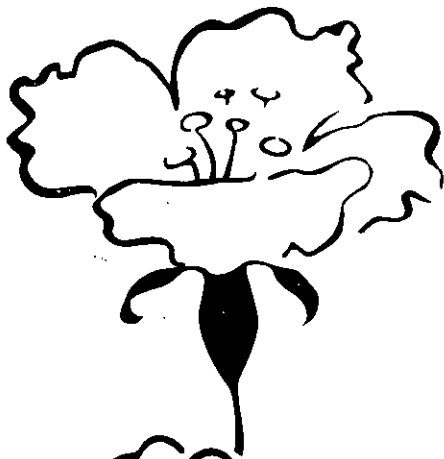
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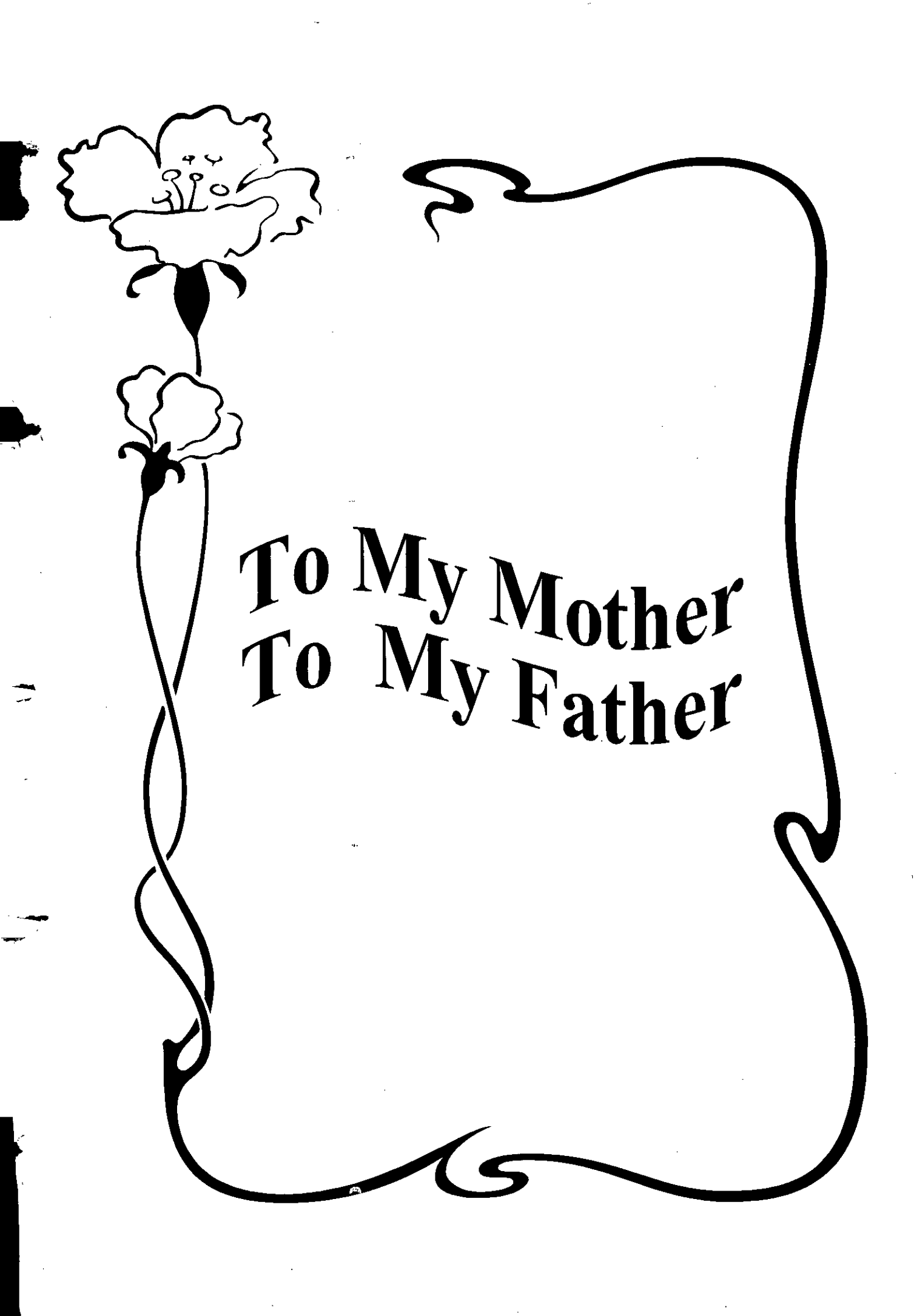
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((اقرأ وربك الأكرم (٣) الذي علم

بالقلم (٤) علم الإنسان ما لم يعلم (٥)))

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

صورة العلق (٣-٥)



**To My Mother
To My Father**

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The kindful and merciful.*

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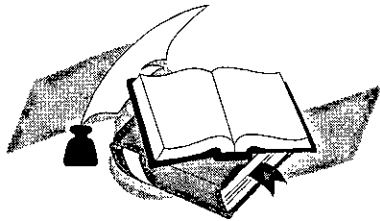
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INTRODUCTION & AIM Of work



INTRODUCTION

Not more than 35-40 years ago it was postulated that oxygen is toxic due to its tendency to create oxygen radicals (*Saugstad, 1992*). It is speculated that numerous diseases in both adult and neonatal medicine are associated with free radicals and their damaging effects (*Halliwell, 1991 and Halliwell, 1994*).

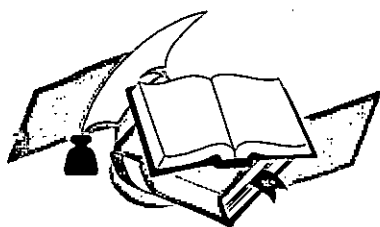
The premature baby is more susceptible to tissue injury than the term one. So that babies born preterm are more prone to free radical injury than later life. Free radicals could cause a series of well known complication in the neonatal period such as necrotizing enterocolitis, persistent patent ductus arteriosus and possibly also intraventricular hemorrhage (*Saugstad, 1990*).

There for these conditions do not represent different diseases, but rather constitute different facets of one single disease, neonatal oxygen radical disease (*Saugstad, 1992*). The theoretical basis for free radical involvement in these disorders is that oxygen centered radicals and related reactive oxygen metabolites are formed too rapidly to be detoxified by the antioxidant defense mechanisms in specific tissues (Kelly, 1993). And as premature infant has poorly developed antioxidant systems and therefore may be of increased risk of radical damage (*Pittkanen et al., 1990 and Frank, 1992*).

AIM OF THE WORK

Aim of this work is to study of plasma antioxidants in premature infants in relation to gestational age and trial to relate the level of antioxidant to short-term outcome of premature babies during the admission period in neonatal care unit.

REVIEW OF LITERATURE



PREMATURITY

Liveborn infants delivered before 37 wks from the first day of the last menstrual period are termed premature by the World Health Organization (*Kliegman, 1996*).

Infants who weight 2,500 g. or less at birth are low birth weight (LBW) infants, are considered to be premature with an appropriately low weight for shortened gestational period or to be intrauterine growth retarded (IUGR) for their gestational age, or both (*Behrman, 1987; Kliegman, 1996*).

Incidence:

Preterm and LBW infants both comprise about 6% of all live births, yet about 70% of neonatal deaths are L.B.W (*Victor, 1994*). Since 1981, the LBW rate has increased primarily because of an increased number of preterm births. In developing countries approximately 70% of LBW are IUGR (*Kliegman, 1996*).

Etiology:

The cause of preterm births unknown in up to 50% of cases and their are multiple factors associated with preterm birth (*Victor, 1994*). These risk factors include; low socioeconomic status lead to relatively high incidences of maternal complications which increase incidence of prematurity; such as maternal malnutrition, smoking habit and bacterial infection of the amniotic fluid and membranes may initiate preterm labor (*Kliegman, 1996*).