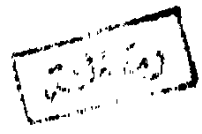
RETROSPECTIVE STUDY OF CASES OF PRETERM LABOUR DURING THE PERIOD 1979 1983 MANAGED AT GHAMRA MILITARY HOSPITAL



THESIS

SUBMITTED IN PARTIAL FULFILMENT FOR MASTER DEGREE OF OBSTETRICS AND GYNAECOLOGY

BY

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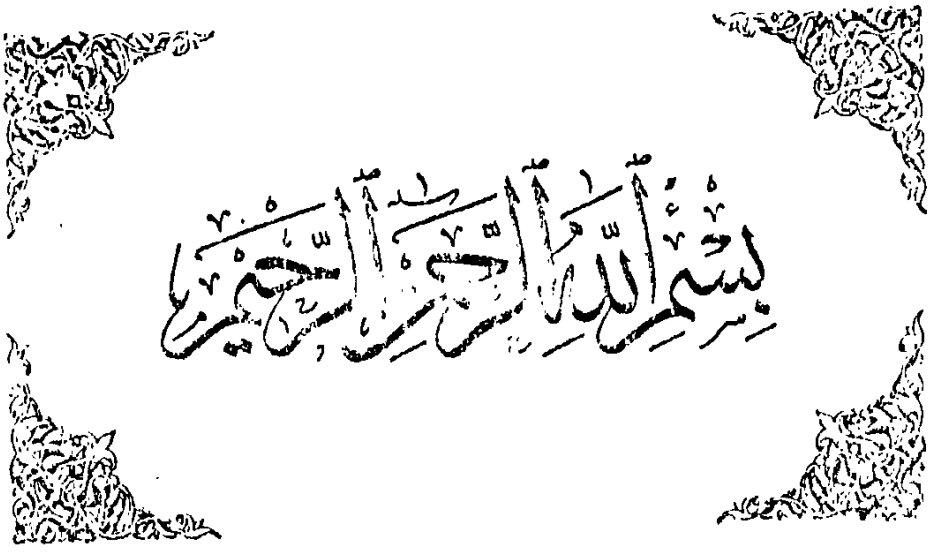
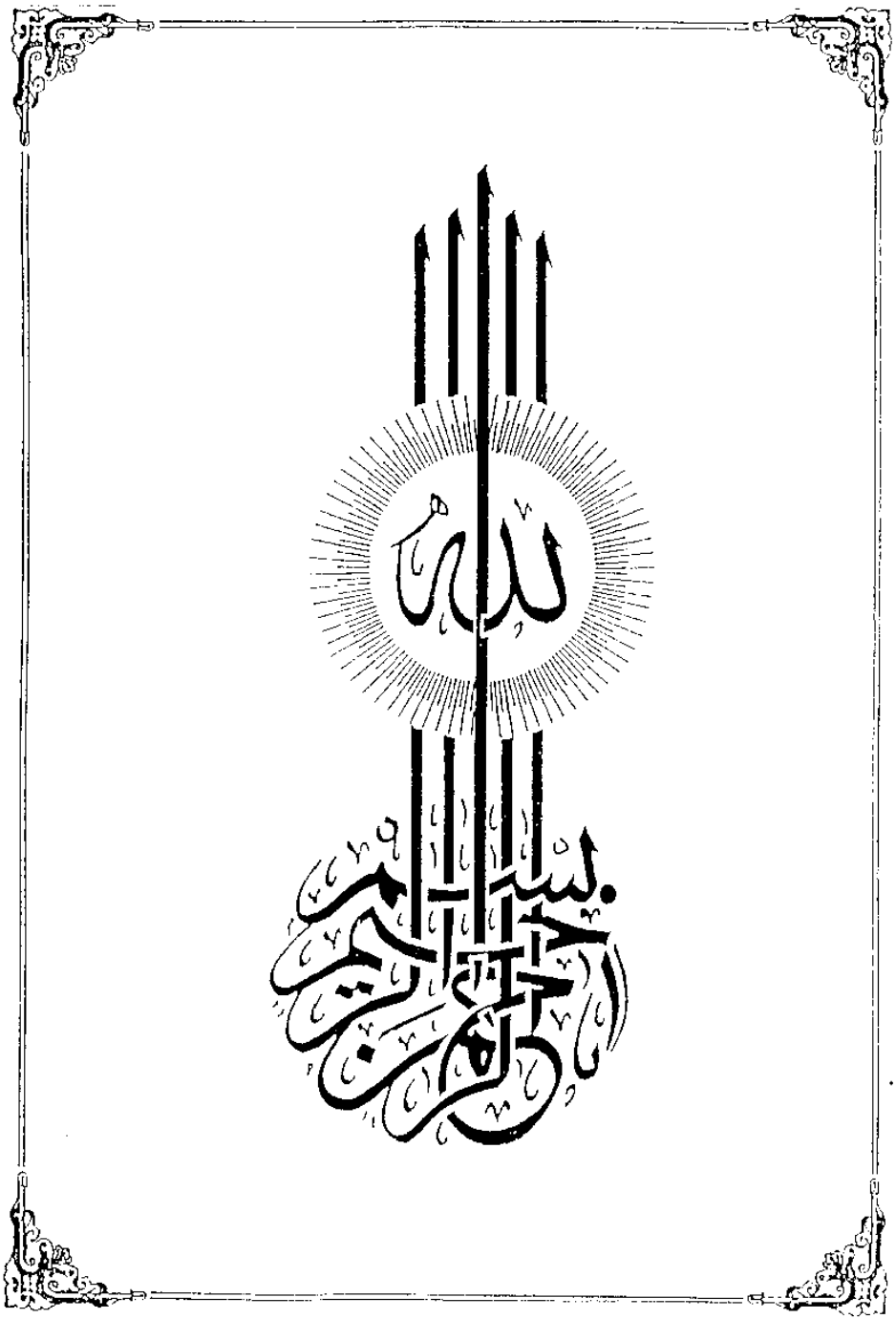
CAIRO 1986





A C K N O W L E D G E M E N T

The credit of bringing this work to light goes to my professor DR. ALY MAREY MAKHLOUF. Professor of Obstetrics and Gynaecology, Faculty of Medicine, Ain Shams University with whom I had the privilege to work. He has made invaluable scientific remarks, spent, with utmost kindness, many hours in the final text, and made several corrections and improvements which made this work much more palatable than it would have been. I am extremely obliged to his continuous guidance especially in starting and setting up the plan of the whole work.

I wish to express my sincer thanks and deepest gratitude to professor Dr. MOHAMED ABD EL SALAM ZAKEY. Chairman of Obstetrics and Gynaecology Department, Maady Military Hospital who offered me alot of his time and experience, whose generous cooperation, sincere efforts, and kind advice were of utmost help.

I am also most grateful and thanks cordially to Dr. MOHAMED N. EL MAHALOWY, Lecturer of Obstetrics and Gynaecology, Ain Shams University for his keen supervision and greatly appreciated guidance and advice. He took the trouble of reading and revising the whole work.

C O N T E N T S

Chapter I

Aim of the work

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The aim of this work is to conduct a retrospective study of the cases of preterm labor admited to the Obstetric Department of Ghamra Military Hospital between the year 1979, through the year 1983 as regards their incidence, aetiology and their management. The results will be analysed and discussed in relation to maternal age, parity, mode of delivery and their effects on maternal and perinatal mortality.

Chapter II

Introduction

Preterm labor

n t r o d u c t i o n

Of all the major problems in medical care, none has xperienced such dramatic progress during the past decade as as the management of preterm birth and its sequelae . Only 0 years ago it was still somewhat unusual, although no longer are, for an infant to survive if his birth weight was less han 1000 gm or before 28 completed weeks gestation. Twenty 'ears ago survivorship of infants born alive within the weight ange 1001 - 1500 gm was less than 50% on many services. This ow birth weight infants too often were destined to die of espiratory distress problems, feeding problems, sepsis or un- ecognized stress from cold enviroment temperature.

Paradoxically the almost miraculous progress in this field has in turn bred a whole new set of problems as more and more infants survive after being born at lower and lower birth weights. Thus the long-range goal of obliterating preterm birth in human infants remains as elusive as ever because progressively more immature candidates for salvage are added to the preterm birth pool in the hope that smaller and smaller infants may be enabled to survive.

Chapter III

Review of litrature

* Definition of preterm labor

Studies on the epidemiology of prematurity have been affected by changes in defenition during the last 20 years. In fact, the classic definition of prematurity as birth weight less than 2500 gm has been changed, (WHO, 1950), and the present recommendation is that the term premature be avoided. According to recent World Health Organization Conventions, the terminology of preterm birth should be used for births of gestational age less than 37 completed weeks (or less than 259 days), as measured from the time between the first day of the last menstrual period and the delivery or expulsion of the fetus.

The terminology of "low birth weight" is recommended for births weighing less than 2500 gm, instead of the previous definition which was equal to or less than 2500 gm. (WHO, 1977).

Other recommended definitions by WHO, 1977, are :

* Small for gestational age (SGA) infant :

newborn with weight below the 10th percentile for gestational age according to Lubchenco tables.

- Appropriate for gestational age (AGA) infant :

  newborn with weight between the 10th and the 90th percentile for gestational age according to Lubchenco tables.

- Very low birth weight infant :

  newborn with birth weight under 1500 gm.

- Extreme prematurity :

  infants with birth weight under 1000 gm.

- Preterm labor :

  Patients before 37 weeks gestation with regular uterine contractions and intact fetal membranes with 5 cm or more of cervical dilatation or with cervical changes observable during a 2 - hour observation.

- Preterm rupture of membranes :

  fetal membranes ruptured at least 1 hour before the onset of labor in patients with less than 37 completed weeks of gestation.

Incidence of preterm labor

In a retrospective study of the incidence of preterm delivery at Aberdeen, it was found to be 5%, (Chang, 1981). This incidence agrees with that reported from a major perinatal centre in England, that the incidence was 5.1%, (Rush, et al, 1976). In United States medical Centre, it is reported to be 7.6%, (Fuchs, 1976). At a perinatal referral centre in New Zealand the incidence was 10.7% and 11.8% for 1973 and 1974 respectively, (Bonham, 1978).

In underdeveloped Countries, the incidence of preterm deliveries rises as the nutritional Standard falls, and in some Countries it is as high as 25%, (Donnelly, et al, 1964).

Endocrine aspects of preterm labour

The birth of a healthy viable infant depends heavily on the proper functioning of the mechanisms which initiate labour at term and then ensure a rapid progression to spontaneous delivery. These mechanisms are remarkably reliable in their timing and effeciency. This is necessary since any defect in the process which leads to undue prolongation of gestation, or even more seriousl. to preterm delivery, predisposes to increased perinatal mortality and morbidity.

In order to be able to anticipate and treat preterm labour, we need to achieve a greater understanding of its antecedent events and course.

Studies in experimental animals have shown that increased production of cortisol by the fetal adrenals is a crurial step, in the initiation of parturition, (Liggins, et al, 1973). Results from human studies are less convincing although higher concentrations of cortisol have been found in umbilical plasma after delivery following spontaneous labor than delivery by elective Caesarean section or following induced labour, (Leong and Murphy, 1976). Murphy (1974) has shown that umbilical plasma from premature infants has a wide range of cortisol concentrations with lower levels in those who develop R D S. Hence, preterm labor can not be considered to occur always in conjunction with elevated fetal plasma cortisol concentrations.

In sheep, fetal hypophysectomy or adrenalectomy will prolong gestation, (Liggins, et al. 1973). Conversely, adminstration of cortisol or Corticotropin (ACTH) to the fetus during late pregnancy will induce parturition. In human pregnancies complicated

by anencephaly (but without hydramnios) there is an increase in the range of gestation at delivery, (Honnebier and Swaab, 1973). Fetal adrenal hyperplasia has been described in babies born as a result of preterm labor of unexplained aetiology, (Anderson, et al, 1971). Adminstration of glucecorticoids does not induce preterm labor in women, although an effect has been observed in women pastterm, (Nwosu, et al, 1976).

Silman, et al (1976) has suggested that there are maturational events occuring during late gestation in the fetal anterior pituitary, with a switch from the secretion of ACTH fragments similar to α-melanotrepin and corticotropin like intermediate loop peptide (CLIP) to real, ACTH. Furthermore, preliminary evidence has been provided that preterm delivery is associated with premature maturation of the fetal brain and hence, perhaps, a premature trophic drive to the adrenal. This may be consistent with the abnormally heavy fetal adrenals found after preterm delivery (Anderson, et al, 1971).

In sheep there is an almost complete withdrawal of progesterone during the week before parturition and a sharp rise in the oestrogens levels during the 24 hours before delivery, (Liggins, et al, 1973). Determination of circulating concentrations of progesterone and oestrogens in recent studies on women have led to the suggestion that changes in their concentrations during late gestation play a facilitatory rather than a stimulatory role in the onset of human labor (Turnbull, et al, 1974). In a more recent study Bell (1983) founded that the plasma levels of oestradiol and progesterone did not play a role in the onset of labor before term. The concept of a "progesterone block" of labor has been put forward by Csapa and it is his findings that suggest an