Ain Shams University

Faculty of Medicine

Department of Obstetrics & Gynaecology

ENDOMETRIAL PROSTAGLANDIN E_2 IN INTRAUTERINE CONTRACEPTIVE DEVICE BLEEDERS

A Thesis

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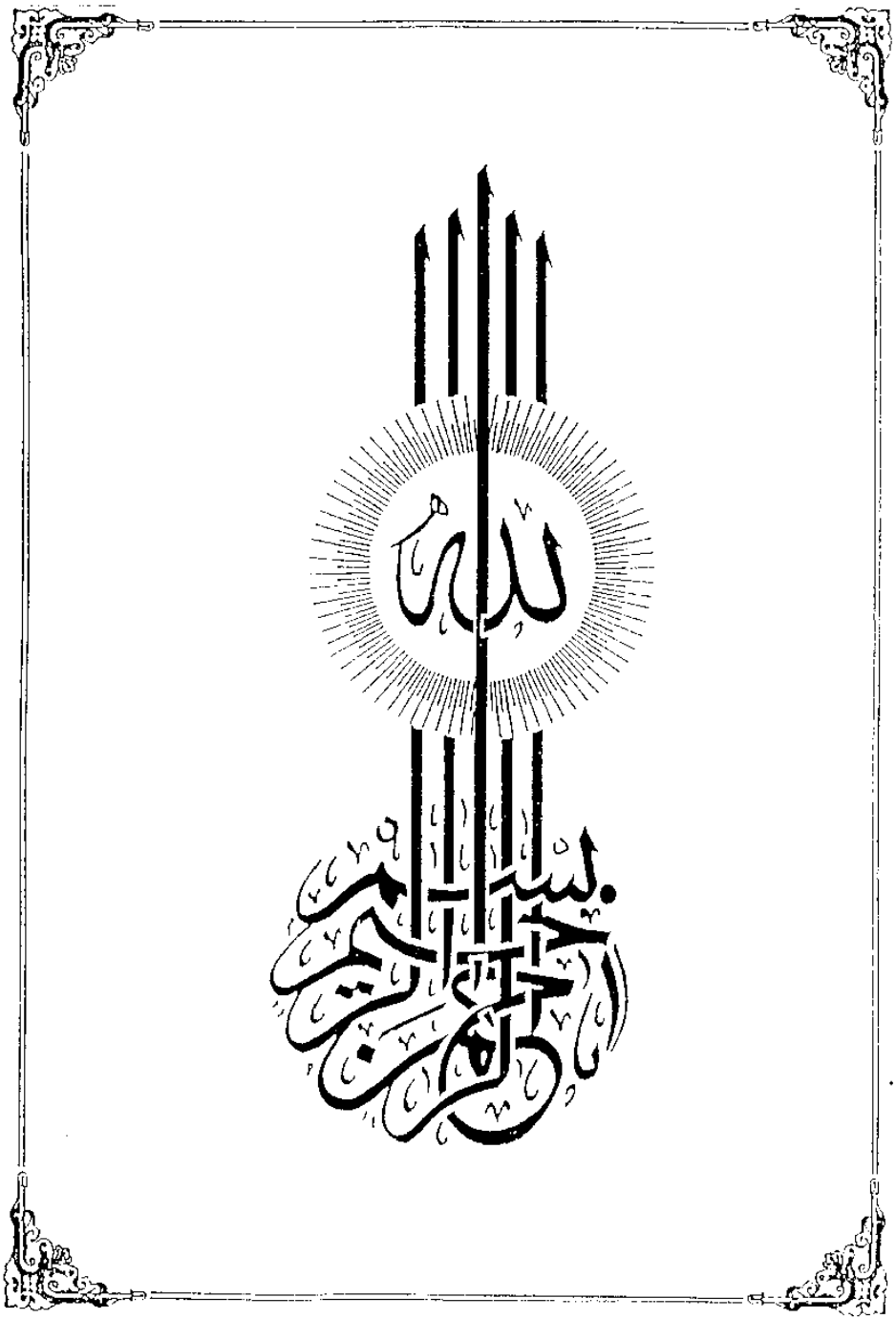

TO MY PARENTS, MY BELOVED WIFE AND SON

CONTENTS

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LIST OF ABBREVIATIONS

EPF	:	Early pregnancy factor
HPETE	:	Hydroperoxy eicosatetraenoic acid
IUFB	:	Intrauterine foreign body
HS	:	Highly significant
LT	:	Leukotriens
MAc	:	Meclofenamic acid
MBL	:	Menstrual blood loss
MLcu	:	Multiload copper
NS	:	Notsignificant
PG	:	Prostaglandins
RIA	:	Radio immuno assay
RRA	:	Radio receptor assay
WHO	:	World Health Organization

LIST OF TABLES

LIST OF FIGURES

LIST OF FIGURES

INTRODUCTION
AND
AIM OF THE WORK

INTRODUCTION

A change in the volume or pattern of menstrual bleeding is one of the commonest causes of concern for health in women. The reduction of family size, by widespread use of contraception and sterilization has resulted in an approximately tenfold increase in the number and duration of periods that women experience during their reproductive life (Shaw, 1980).

The upper limit of normal for menstrual blood loss appears to lie between 60 and 80 ml and losses in excess of 80 ml can be considered pathological (Hallberg et al., 1966). Excessive menstrual bleeding is the commonest cause of iron deficiency anaemia in women (Guttorm, 1971).

There are several factors which point to the involvement of prostaglandins in the mechanism of menstruation. They are present in high concentration in endometrium and myometrium (Ramwell et al., 1980).

The principal prostaglandin synthesized by secretory endometrium taken from women with a normal volume of menstrual blood loss is $PGF_{2\alpha}$, followed by PGE_2 (Smith et al., 1981).

Secretory endometrium taken from women with heavy periods has a greater capacity to synthesize PGE_2 than endometrium taken from women with light periods (Smith et al., 1981).

Although intrauterine contraceptive devices have been used for more than half a century, the true mechanism of their antifertility action remains poorly defined (WHO Scientific Group, 1987).

The exact mechanism of action in humans remains to be elucidated.

The consensus of opinion, however, is that the existence of a local inflammatory reaction appears to play an important role for all IUDs, with additional modes of action in effect for the medicated IUDs (El Sahwi and Moyer, 1971).

Basically, the numerous cellular and biochemical alterations induced in the endometrium by the IUDs are believed to be responsible for the contraceptive effect (Moyer and Mishell, 1971).

Prostaglandins play an important role in the mechanisms of abnormal uterine bleeding. This is proved by the effectiveness of prostaglandin suppressants in treating abnormal uterine bleeding with IUDs (El Sahwi et al., 1987).

The question of whether IUDs should be regarded as real contraceptives, that prevent fertilization, or whether they prevent the development of the fertilized ovum, which could constitute a form of early abortion is of importance (Pereira and Coelho Marques, 1973).

In the first year after insertion of IUD, between 5% to 15% of women will have their IUDs removed because of bleeding or spotting. They may experience more days of bleeding, persistant bleeding, spotting between cycles and even pallor or weakness. Iron supplementation is wise for all users who may be at risk of developing an iron deficiency anaemia (Malmqvist et al., 1974).

AIM OF THE WORK

The aim of this study is:

a. To review the literature about the mechanism of action of IUDs.

b. To detect the role of endometrial prostaglandin E_2 in bleeding between IUD users.

c. To detect if this bleeding in IUD users is due to an early abortion or not.