

**PLASMA FIBRONECTIN PREDICTIVE
VALUE IN THREATENED ABORTION**

THESIS

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By

ABO EL-DAHAB FARID MAHMOUD

M. B., B.Ch.



SUPERVISED BY

Prof.Dr. KHALIL ISMAIL EL-LAMIE

*Professor and Head of Obstetric
and Gynaecology Departments
Ain Shams University*

Dr. KHALED MOHAMMED AZIZ DIAB

*Lecturer of Obstetric and Gynaecology
Ain Shams University*

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
وَمَا أُوتِيتُمْ مِّنَ الْعِلْمِ إِلَّا قَلِيلًا
صدق الله العظيم آية ٨٥ سورة البقرة



To My Family

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**INTRODUCTION
AND
AIM OF THE WORK**

INTRODUCTION

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Threatened abortion is a common obstetrical problem which gives rise to anxiety to the patient and presents a real challenge to the clinician who is asked to judge the fate of its threatening and to predict the outcome of pregnancy (Hertz, 1984).

Studies of different parameters have been conducted to predict the outcome of pregnancy in cases of threatened abortion. Some studies depend upon ultrasonic examination of the gestational age and reliable findings have been obtained in the pregnancies from the 10th week and onwards. However, before this age, hormonal parameters have been reported to be more informative in predicting pregnancy out-come in threatened abortion (Hertz, 1984).

Non-hormonal substances as alpha feto-protein (AFP) and Schwangerschaft's protein-1 (SP₁) and the pregnancy associated plasma protein-A (PAPP-A) were also measured in plasma of patients with early threatened abortion and gave good prognostic results. The predictive value for AFP was 81% and for SP₁ was 82% (Hertz, 1984).

Fibronectins are major glycoproteins, classified as $\alpha 2$ globulins, widely distributed in plasma and all body

Introduction and Aim of The Work

fluids as soluble form and in many tissues as insoluble form (Eriksen et al., 1982). Its most important function seems to be in tissueremodelling during embryogenesis and tissue repair at sites of vascular injury (Mosher, 1984). The endothelial cells are suggested to be the main site of synthesis of fibronectin in plasma (Eric et al., 1978).

In this study, we will investigate plasma level of fibronectin in various types of abortion and the possible utilization of plasma fibronectin as a parameter for prediction of fetal outcome in cases of threatened abortion.

Introduction and Aim of The Work

AIM OF THE WORK =====

Our aim of this work is to evaluate the fibronectin in early pregnancy.

Furthermore, to assess its levels in cases of missed, inevitable abortion and detection if there any true predictive value in cases of threatened abortion.

REVIEW OF LITERATURE

THREATENED ABORTION

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DEFINITION :

The World Health Organization in 1977 defined the threatened abortion as the pregnancy over six weeks gestation have at least one episode of uterine bleeding associated with uterine cramping (Lauritsen, 1986).

INCIDENCE :

As many as 40% of all pregnancies over 6 weeks gestation develops threatening symptoms including uterine bleeding and cramping with closed internal os (Poland, 1977).

Mechanism of abortion :

In abortion, haemorrhage and haematoma formation into the decidua basalis and the necrotic changes in the tissues result in placental separation. It is currently believed that, this separation leads to a fall in placental progesterone and a rise in maternal oestrogens which is followed by the release of increasing amounts of prostaglandin $F_{2\alpha}$ and E_2 from the maternal placenta and myometrium and by an interaction with the myometrial

Review of Literature

adenyl cyclase system, results in making the uterus contractile leading to expulsion of the ovum (Philipp et al., 1977).

Clinical picture :

Threatened abortion is presumed when any bloody vaginal discharge, or vaginal bleeding appears during the first half of pregnancy. It is considered for all cases in which the size of the uterus is parallel to gestational age and associated with minimal to mild bleeding and may or may not be associated with low abdominal pain and/or low backache, and on bimanual examination, the os is closed (Philipp et al., 1977).

ASSESSMENT OF PATIENTS WITH THREATENED ABORTION

Many tests have been used to predict the outcome of pregnancy complicated with threatened abortion e.g. hormonal assay of progesterone, estradiol, human chorionic gonadotropin, human placental lactogen, Alpha fetoprotein and other non-hormonal parameters as Schwangerschaft's protein-1. Pregnancy associated plasma protein-A as well as ultrasonography were also used.

I- Ultrasonography :

With ultrasound examination, it has become possible to record the size and contents of the uterus. The ultrasound findings in the first trimester are : the normal intrauterine pregnancy is first visualized by 5-6 weeks gestation (menstrual dates) and appears as a ring or circular structure within the uterus. By the 8th week, fetal echoes are seen rather distinctly within the sac and crown-rump length can be obtained which is a more accurate estimate (Robinson, 1975).

Fetal viability can be definitely determined by demonstrating fetal heart movement from the 7th week onwards (Robinson, 1972) and fetal motion (Anderson, 1980).

Review of Literature

Absence of fetal shadow within the sac from 6-8 weeks gestation onwards indicates a non-viable pregnancy due to blighted ovum which must be confirmed by a repeated scan one week later (Sallam and Einein, 1985).

Ultrasound findings in cases of threatened abortion :

Westergaard et al. (1985) had found that the presence of fluid between the gestational sac and uterine wall which may represent haematoma formation, bradycardia below 120/min and there was a lag in growth either of gestational sac or crown-rumb length beyond the rate of growth. The rate of growth of the sac is 0.73 mm/day and the rate of growth of crown-rumb length is 0.47 mm/day till the 8th week then the rate of growth is 1.11 mm/day.

Hertz et al. in 1980 conducted a study on 100 women with threatened abortion between 7-18 weeks gestation, the U/S were performed within 24 hours after admission. The predictive value of scan were :

By single scan, the predictive value of abortion was 74.4% while for successful outcome, it was 78.7%. On the other hand, by serial scan, the predictive value of abortion was 96.7% while for successful outcome, it was 81.4%.