# HORMONAL PROFILE OF UNEXPLAINED INFERTILITY IN WOMEN

Thesis

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By

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بسم الله الرحمن الرحيم

" لله ملك السموات والارض يخلق ما يشاء يهب لمن يشاء اناثا ويهب لمن يشاء الذكور أو يزوجهم ذكرانا واناثا ويجعل من يشاء عقيما انه عليم قدير "

صدق الله العظيم

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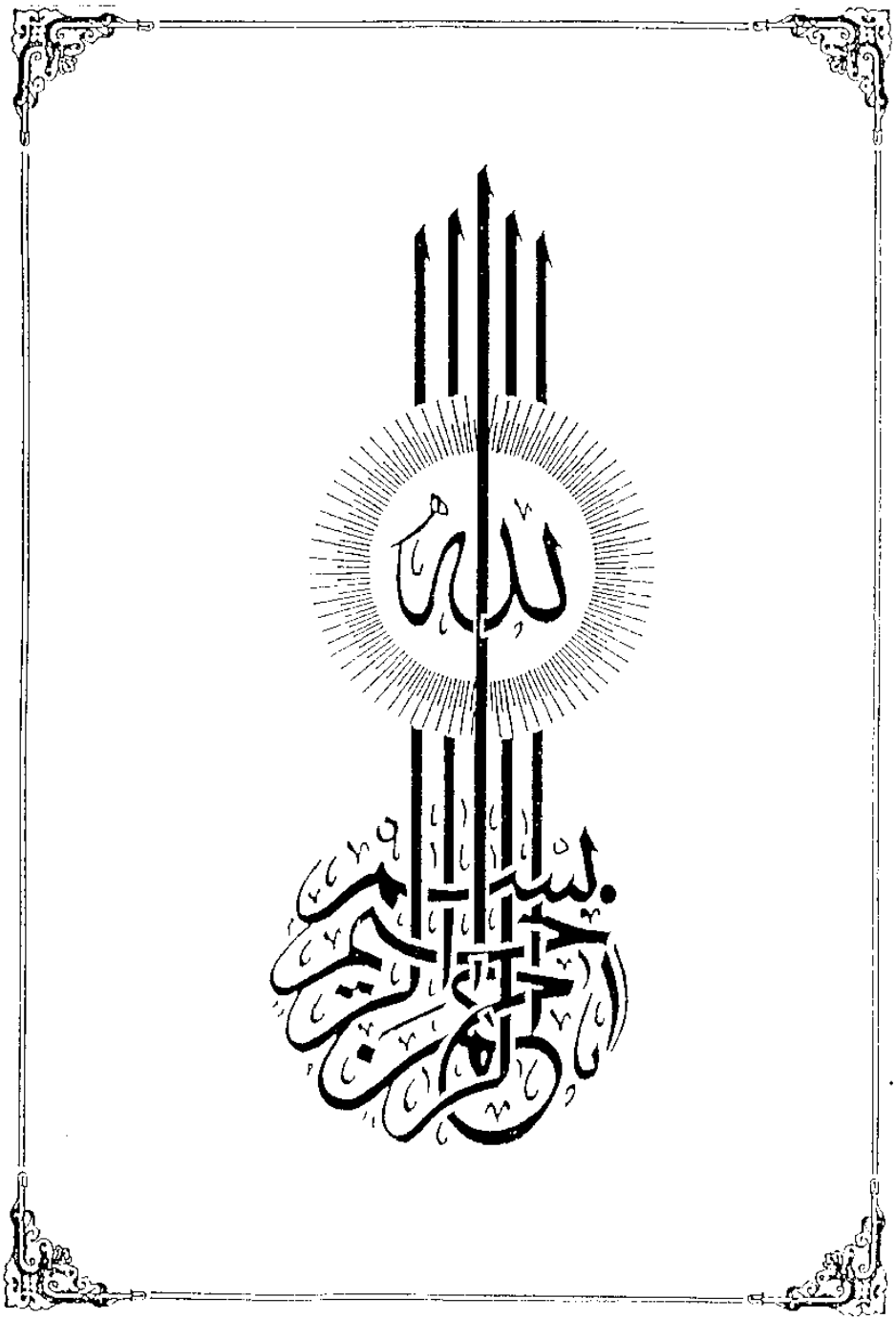

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# INTRODUCTION

The basic diagnostic work up in most outpatient infertility clinics in Egypt includes three principle procedures; premenstrual endometrial biopsy for prediction of ovulation, tubal insufflation and hysterosalpingography for tubal patency and in vitro semen analysis.

The interpretation of results of these investigative techniques by the managing physician is the milestone for identification of the etiology of infertility.

If the results of these procedures are satisfactory and there is no obvious clinical abnormalities pointing to major disease entities such as amenorrhea, galactorrhea, thyrotoxicosis, diabetes mellitus, hairsutism etc ..., the infertile couple may be considered as infertile without definite explanation (unexplained infertility). However there is an increasing awareness concerning the importance of modern concepts of various

other etiological factors of either male or female infertility.

The present work was designed to evaluate a major endocrinologic aspect of infertile women who were clinically assigned as normaly ovulating by the routine premenstrual endometrial biopsy findings and whose clinical examination did not reveal any abnormality that could give a clue to an endocrine disturbance. In other words these women were clinically considered as having an unexplained endocrine infertility.

**Aim of the Work:**

Is to study hormonal profile of "unexplained infertility" in some women.

## BASIC WORK UP OF THE INFERTILE COUPLE

The etiological diagnosis of infertility is the key stone to its proper management.

Due to multiplicity of factors and the advances in laboratory techniques and surgical diagnostic procedures, literature dealing with this problem give confusing reports and concepts. In a recent review by Moghissi and Wallach (1983)* it was mentioned that a complete infertility evaluation constitutes basic studies which should include a thorough history and physical examination and pertinent laboratory tests in both the woman and the man; and specific studies which should consist of investigation of the male factors and evaluation of cervical, uterine, tubal, peritoneal, ovarian, psychogenic, and immunologic factors in the woman as well as assessment of coital techniques and patterns. The same authors in the same article mentioned that basic fertility survey of the female should be composed of:

1- History, physical examination and laboratory tests.

2- Cervical factor.

3- Uterine factor.

4- Tubal factor.

5- Peritoneal factor.

6- Ovarian factor.

7- Psychogenic factor.

8- Immunologic factor.

The basic fertility survey of the male should include:

1- History.

2- Physical examination.

3- laboratory tests.

4- Semen analysis.

Infertility studies should not considered completed unless various factors mentioned above have been thoroughly investigated.

McBain and Pepperell (1980) stated there are no major or minor abnormalities that could be detected in either partner, no specification for such abnormalities was identified.

Blackwell (1982) emphasized the need to redefine the basic infertility work up. In his opinion the

basic infertility work up should consist of a semen analysis, continuous basal body temperature chart recording, luteal phase endometerial biopsy timed to the basal ovulation as determined by basal body temperature chart analysis, an appropriately timed hysterosalpingogram, mycoplasma and ureaplasma cultures, cervical and sperm antibody screen, sperm penetration test if indicated, diagnostic laparoscopy, and hysteroscopy.

Taymor (1978) stated that the basic infertility work up should include history and examination of the couple, evaluation of the cervical factor, tubal factor, ovulatory factor and a semen analysis.

## UNEXPLAINED INFERTILITY

There is no consensus of opinion about the definition of unexplained infertility. Moghissi et al (1983) referred to unexplained or "idiopathic infertility" as the failure of a couple to conceive in whom no definite cause for infertility can be identified. They stated that this term is preferred to the "normal infertile couple" as the term normal is inappropriate in many instances.

Pepperell and McBain (1985) mentioned that when conception fails to occur after a period of 1-2 years and no major or minor abnormality can be detected in either partner, then infertility is unexplained or "idiopathic".

Wallach EE (1985) stated that the term "unexplained infertility" refers to the failure of a couple to establish a pregnancy when no specific cause can be identified, utilizing currently available and acceptable diagnostic methods.

MMcBain and Pepperell (1980) described the criteria for unexplained infertility.

According to these authors unexplained infertility should only be diagnosed when the woman has been shown to be ovulating regularly, to have patent Fallopian tubes, to be free of peri-Tubal adhesions, fibroids and endometriosis and to have a sexual partner with normal sperm production.

Intercourse must have been performed frequently, especially at about the time of ovulation, and the couple must have been attempting to conceive for at least two years. The minimal investigations required to make such a diagnosis must include histological or biochemical confirmation of ovulation, hysterosalpingography, laparoscopy and a semen analysis.

This latter investigation is the least reproducible among centers treating infertile couples but to be included in their unexplained group the male partner must have a semen analysis with a sperm density

in excess of 40 million per ml, at least 40 per cent of which must be motile and show good forward progression and the morphologically abnormal sperm must not exceed 40 per cent of the total. Although the performance of a post-coital test may enable subjects with coital difficulties or an immunological cause for their infertility to be recognized, the significance of an abnormal test is often difficult to determine. For this reason they have not excluded couples from the unexplained infertility group even when the post-coital test has been performed and found abnormal, but have repeated the test frequently during the period of intensive endocrine investigation and treatment.

Incidence of unexplained infertility:

The average incidence of unexplained infertility has been reported as approximately 15% among infertile couples who have been thoroughly evaluated (Templeton AA, Penney GC, 1982).

Jones and Pearmand (1962) have reported a 16% incidence of unexplained infertility among 1500 couples in the United States.

Templeton and Penney (1982) reviewed 17 studied dating back to 1944 the incidence of unexplained infertility in studies reported prior to 1970 varied between 7% and 20%.

Templeton and Penney described idiopathic infertility in 24% of their own patients.

It is not possible to provide an actual incidence figure of unexplained infertility from the world literature due to variations in populations studied, selective referral of specific patient problems to individual specialists, the criteria used to determine normality and the interpretation of the semen analysis. An incidence of approximately 10% is probably reasonably accurate but the overall incidence is declining as couples are subjected to more complete and intensive investigation before being labelled normal but infertile. (Popperell RJ & MCBain JC, 1985).

# TRADITIONAL AND MODERN EVALUATION OF VARIOUS FEMALE INFERTILITY FACTORS