INTRODUCTION

Polycystic ovary syndrome (PCOS) was first described in United states by Stein and Leventhal in 1935, since it has been recognized as one of the most common endocrine disorders of women ***(Azziz R., et al., 2004)*** and the most frequent cause of oligo-ovulatory infertility ***(Hull MG., 1981)***. PCOS is a heterogenous disorder affecting 4-7% of reproductive aged women ***(Knochenhauer ES., et al., 1998)***.

It is characterized by chronic anovulation and hyperandrogenism. Consequently, it is the most common cause of anovulatory infertility, oligomenorrhea, amenorrhea, and hirstism ***(Balen A., et al., 2002)*** for the most part, PCOS appears to be inherited as a complex genetic trait.

It has recently become clear that PCOS is linked to a number of metabolic disturbances as approximately 50-70% of patients with PCOS have detectable insulin resistance and hyperinsulinemia. In these patients hyperinsulinism stimulates androgen production by the ovaries and suppression of sex hormone-binding globulin (SHBG), associations of PCOS result in an increased risk for type 2 diabetes mellitus (DM) dyslipidemia, hyertension, and cerebrovascular disease and possibly cardiovascular morbidity ***(Legro RS., 2003)*** in addition, these metabolic abnormalities may result in an increased risk of obstetrical complications, including gestational diabetes mellitus (GDM), pregnancy induced hypertension (PIH), and Pre-eclampsia.

PCOS affects approximately one in 15 unselected women in the United States and elsewhere, suggesting that there are approximately 105 million affected women aged 15-49 world wide ***(Population Reference Bureau. 2002)***. Because of its high prevalence and association with

ovulatory and menstrual abnormalities, infertility, hirsutism, and metabolic complications. This disorder potentially represents a significant financial burden to our health care.

Pelvic ultrasound assessment has been widely used to screen for the presence of polycystic ovaries as part of the diagnostic criteria for PCOS in European centers, particularly in the United Kingdom ***(Adams J and Polson DW., 1986)***. In addition, a baseline Pelvic ultrasound assessment is invaluable in ruling out any pre-existing ovarian cysts before ovulation induction therapy, especially if obesity (a common feature of PCOS) compromises the usefulness of a routine pelvic examination. In postmenopausal women with uterine bleeding, the endometrial thickness on vaginal ultrasound assessment has been positively correlated with the presence of endometrial abnormalities, and curretage can be avoided if the endometrial thickness is no more than 4mm ***(Karlsson B., et al., 1999)***.

The primary objective of our study is to determine whether the endometril thickness can similarly predict endometrial abnormalities in women with PCOS whose primary presentation is infertility due to anovulation. Accordingly, before ovulation-induction therapy, the endometrial thickness is measured during the baseline vaginal utrasound assessment of the ovaries and the pelvis is immediately followed by an endometrial biopsy. In addition, Predictive values for other clinical characteristics, particularly the menstrual history, will assessed.