Acknowledgement

First and above all my deepest gratitude and thanks to Allah for achieving any work in my life.

I would like to express my especial cordial thanks, endless gratitude and appreciation to ***Prof. Sherif Muhammad Saleh El-Ghetany*** Professor of Obstetrics and Gynecology, Faculty of Medicine Ain Sham University for giving me the opportunity to work under his meticulous supervision. His honest assistance and patience make me truly indebted to him.

With great pleasure I am also grateful to ***Dr. Noha Hamed Rabei*** Assistant Professor of Obstetrics and Gynecology, and ***Dr. Ahmed Muhammad Awadalla*** Lecturer of Obstetrics and Gynecology Faculty of Medicine Ain Sham University, for their kind effort and support that made achievement of this work possible. They offered me lots of help and encouragement.

I would like to thank the laboratory and ultrasound units at Ain-Shams University Maternity Hospital for their great efforts and their help in making this work possible, they offered every help they could wiithout any delay at anytime. Many thanks to them.

No words could adequately express my deep appreciation to my family, for their continuous support and guidance. I shall remain indebted to them all my life.

Thanks

EVALUATION OF TRANSVAGINAL SONOGRAPHY AND SERUM CA-125 LEVEL IN PREDICTION OF THE NATURE OF POSTMENOPAUSAL OVARIAN CYSTS

Thesis
Submitted for Partial Fulfillment of the Master degree in Obstetrics and Gynecology

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2009

تقييم دور الفحص بالموجات فوق الصوتية عن طريق المهبل ودالة الأورام **CA125** فى توقع طبيعة تكيسات المبايض عند السيدات بعد إنقطاع الطمث

رسالة توطئه للحصول على
درجة الماجستير فى التوليد وأمراض النساء

مقدمه من

الطبيب / محمد حسن السعيد عراقى

بكالوريوس الطب و الجراحة(كلية الطب جامعة عين شمس ، ٢٠٠١)
(طبيب مقيم بمستشفى الهيئة العربية للتصنيع)

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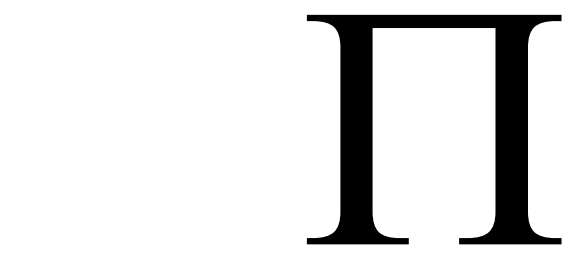
٢٠٠٩



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من علق {٢} إقرأ وربك الأكرم {٣} الذى
علم بالقلم {٤} علم الإنسان ما لم يعلم {٥}

سورة العلق الآيات ١- ٥

Introduction

INTRODUCTION

Ovarian cancer is the most frequent cause of death from gynecological cancer .most ovarian cancers occur after menopause when the ovaries have no physiological role and consequently abnormal ovarian function causes no symptoms. As a result of this factor, combined with the anatomical location of the ovaries deep in the pelvis, ovarian cancers typically cause few symptoms until they reach a large size or have disseminated. As a result, ovarian cancer is usually diagnosed at an advanced stage when despite advances in surgical and chemotherapeutic management during the last decade survival rates are poor .***(Crayford et. Al, 2000)***.

It is of extreme importance for establishment of correct management to know the nature of an ovarian cyst, especially in postmenopause. Because about 94% of ovarian malignancies arise from the epithelium of the ovary and most of them have some cystic component, the occurrence of an ovarian cyst in postmenopausal women is considered a potential cystic neoplasm ***(Kurjak et al.,2002).***

Asymptomatic unilocular ovarian cysts in postmenopausal women are a common occurrence. The incidence of these cysts has been reported to be between 3% and 17% ***(Levine et al.,1992; bailey et al.,1998)***.In an autopsy study, ovarian cysts were found in 15.4% of the adnexa of 234 postmenopausal women who had died from non-gynecologic diseases .all cysts benign , except for 1 woman , who had

bilareral serous cystadenoma of borderline type ***(Dorum et al.,2005).***

Management of an ovarian cyst in a postmenopausal woman has to focus on early detection of ovarian cancer. Three approaches have been utilized to detect early stage ovarian cancer: peripheral blood markers, ultrasonography and a sequential combination of these two modalities. Early studies utilized trans-abdominal sonography (TAS) ***(Campbell et al.,1989)***, but more recent trials have employed trans-vaginal sonsgraphy (TVS) that permits more precise imaging of each ovary. Trans-vaginal ultrasound scanning is an effective method to evaluate the morphology and volume of the ovary, particularly in postmenopausal women, as there are no cyclical functional changes. This diagnostic approach is thought to be sensitive enough to detect early-stage ovarian disease ***(Collins et al.,1998)***.

CA125 has received the greatest attention among the serum markers for ovarian cancer,. CA125 is an epitope on a large mucin glycoprotein molecule(MUC16) of greater than 1 million Daltons ***(O`Brien et al.,1998)***.CA125 was first detected using a murine monoclonal antibody, OC125 that had been raised against a human ovarian cancer cell line. Multiple CA125 determinants are expressed on each MUC16 molecule. Consequently, a double determinant radioimmunoassay could be developed. CA125 antigen was trapped on a bead coated with OC125 antibody and trabbed antigen was then detected using radiolabeled CA125. Over the last two decades,the

CA125 assay has been applied to the management of epithelial ovarian cancer in several settings. CA125 has been used for monitoring response to primary treatment, determining prognosis, and predicting residual tumor mass ***(Bast,1998)***.

CA125 can be elevated 10 to 60 months prior to conventional diagnosis of ovarian cancer. CA125 levels are elevated in sera from 50 to 60% of patients with stage I disease ***(Hasholzner et al., 1994)***.An individual value of CA 125 is not sufficiently specific to permit effective screening . Specificity can be improved by combining CA 125 with ultrasonography and sequential monitoring of CA125 values over time***.(Weber et al.,2004)***

Jacobs, et al (1999) combined CA125 with TAS in postmenopausal women, in a sequential two stage strategy; if CA125 levels were elevated on an annual screen, transabdominal ultrasonography was performed. If abnormalities were detected surgery was undertaken. Median survival in the screened group was significantly greater than in the unscreened group.

Measurement of serum CA125 as a primary test and pelvic ultrasonography as a secondary test (multimodal approach) confirmed the high specificity and positive predictive value of this strategy in postmenopausal women ***(Menon et al.,1999)***. They applied pelvic ultrasound in a group of postmenopausal women with a CA125>30 U/ml. the sensitivity for detection of ovarian cancer of different ultrasound criteria was 100% for abnormal morphology, 89%

for abnormal volume and 84% for complex morphology. The highest specificity and positive predictive value was achieved using complex morphology.

Early detection of ovarian cancer could have amajor impact on the disease. Two stage strategies are likely to be most effective .TVS is a reasonable second stage. Novel markers and computational methods are currently being evaluated. Sequential use of multiple markers and TVS could provide a cost-effective strategy to detect a disease of intermediate prevalence ***(Bast,2004)***.

Recently, it is suggested that women with unilocular cysts on trans-vaginal ultrasound (TVS) and a normal CA-125 are monitored with repeat TVS at 3 to 6 months. Those with a complex mass<5 cm and normal CA-125 should have repeat TVS and CA-125 testing in 4 weeks. surgery is recommended for any women with increasing morphologic complexity or a rising CA-125 ***(McDonald& Modesitt,2006)***.

Aim of the Work

AIM OF THE WORK

This work aims to study the sensitivity, specificity, and predictive value of both serum CA125 level and trans-vaginal sonographic criteria of the ovarian cyst in determination of the nature of ovarian cyst in postmenopausal women.

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