

CORRELATION BETWEEN ENDOMETRIAL THICKNESS AS MEASURED  
BY ENDOVAGINAL ULTRASONOGRAPHY AND HISTOPATHOLOGICAL  
FINDING IN ABNORMAL UTERINE BLEEDING

THESIS

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## CONTENTS

1-	INTRODUCTION	1
2 -	AIM OF WORK	5
3 -	REVIEW OF THE WORK	
	1) Physiology of menstrual cycle	6
	2) Histology of the endometrium	12
	3) Factors influencing the amount of blood loss	18
	4) Abnormal uterine bleeding	23
	5) Dysfunctional uterine bleeding	30
	6) Organic causes of abnormal uterine bleeding	37
	7) Postmenopausal bleeding	47
	8) Pathology of abnormal uterine bleeding	50
	9) Pathology of organic uterine cause of abnormal uterine bleeding	57
	10) Diagnosis of abnormal uterine bleeding	63
	11) Sonographic evaluation of the uterus and related disorders	72
	12) Sonographic picture of normal endometrium	75
	13) Sonographic picture of abnormal endometrium	80
	14) Sonographic picture of uterine causes of abnormal uterine bleeding	87
	15) Transvaginal versus transabdominal ultrasound	90
	16) Endometrial sonography with histopathological correlation	
4 -	PATIENT AND METHOD	103
5 -	RESULTS	106
6 -	DISCUSSION	115
7 -	SUMMARY AND COCLUSION	121
8 -	REFERENCES	124
9 -	ARABIC SUMMARY	

## APPREVIATIONS

AP	ANTEROPosterior .
D & C	DILATATION AND CURETTAGE .
DUB	DYSFUNCTIONAL UTERINE BLEEDING .
EUA	EXAMINATION UNDER ANAESTHESIA .
FIG	FIGURE .
FSH	FOLLICLE STIMULATING HORMONE .
H & E	HEAMATOXILIN & EOSIN STAIN .
HSG	HYSTEROSALPINGOGRAPHY .
IUD	INTRAUTERINE DEVICE .
LH	LUTEINIZING HORMONE .
MBL	MENSTRUAL BLOOD LOSS .
M/E	MICROSCOPIC EXAMINATION .
MRI	MAGNETIC RESONANCE IMAGING .
PG	PROSTAGLANDIN .
RNA	RIBONUCLIC ACID .
T <sub>3</sub>	TRIiodOTHYRONINE .
T <sub>4</sub>	THYROXINE HORMONE .
TA	TRANSABDOMINAL .
TV	TRANSVAGINAL .
U/S	ULTRASONOGRAPHY .
VA	VEBRA ASPIRATION .

INTRODUCTION

&

AIM OF  
THE WORK

## INTRODUCTION .

Abnormal uterine bleeding is any genital bleeding that is irregular or excessive in duration , frequency or amount for a particular patient . (Wentz , 1988 ) .

The menopause is never normally preceded by increasing menstrual loss , and the only safe role is to regard any bleeding which is heavier in amount , longer in duration , or acyclical occurring in women more than 40 years of age abnormal uterine bleeding requiring immediate and careful evaluation . (Tindall , 1987 )

Abnormal uterine bleeding has always been an indication for curettage especially in postmenopausal period . Curettage was introduced as early as 1843 by *Racamier* but came to be diagnostic in 20th century . ( Grimes , 1982 ) .

Dilation and curettage carries a small but real risk for morbidity and mortality . Further more , curettage cause a great deal of anxiety to the patient with the knowledge that almost 70 % of diagnostic curettage result in diagnosis of benign condition . An improved preoperative evaluation could reduce the number of curettages and bring down the cost considerably. ( Mackenzie , 1987 ) .

The histopathologic diagnosis obtained at curettage is used as the gold standard for distinguishing between benign and malignant endometrium , however , false negative rate is 2 - 6 %

This probably the fact that curettage is no guarantee that

the uterine cavity has sufficiently curetted . ( Grimes , 1982 and stowall et al . , 1989 ) .

Thus it is not surprising that some studies have found almost 6 % of cases of hyperplasia and cancer were missed at curettage performed before hysterectomy .  
( Stowall et al . , 1989 ) .

Many different methods have been developed to minimize the need for curettage . One such method is vebra aspiration , compared with curettage , it is more convenient since there is no need for general anaesthesia . Thereby minimizing the risk to women , however . the diagnostic accuracy when compared to that of curettage has been debated . This one reson the use of these methods so far has not significantly influenced the number of curettage performed in women with abnormal uterine bleeding .  
( Grimes , 1982 ) .

Development in the soft tissue interfaces resolution by real time ultrasound scanner enabled the study of the endometrium making its examination easy and quick .Diagnostic ultrasound is a simple acceptable non invasive method of investigation .  
( Nasri and Goast , 1989 ) .

Also it is a very good method for evaluation of endometrial growth in menstruating women . It is well known that phasic variation in endometrial thickness can be easily visualised by ultrasonography . ( Fleischer et al . , 1986 and Welker et al . , 1989 ) .

1989 ) .

According to ( *Fleischer and Enteman , 1991* ) , both transvaginal and transabdominal sonography have a role in evaluation of reproductive organs . Whereas transvaginal sonography provides detailed image of the uterus , transabdominal is better for depiction of those with masses larger than 5 cm .

Ultrasonography is a good method for screening of uterine neoplasm in presymptomatic postmenopausal women . Those with endometrial thickness of 4 mm or greater should undergo curettage and histopathological examination . ( *Osmer et al . , 1990* ) .

however , ( *Nasri et al . , 1991* ) , suggested that an endometrial thickness of 5 mm is an appropriate cut off level for conservative management of patients with postmenopausal bleeding , or in screening for endometrial carcinoma . A normal ultrasound appearance of the endometrium in postmenopausal women reliably excludes significant endometrial pathology . ( *Nasri and Goast , p1989* ) .

Staging of known endometrial carcinoma can be assessed using ultrasound by determinig degree of endometrial invasion . ( *Rosenberge and Hacansson , 1989* ) .

Demonstration of subendometrial halo usually indicate superficial invasion whereas , the absence of halo was frequently associated with deep invasion .

However , it should be noted that patients with endometrial cancer may even have normal sonogram . ( *Fleischer et al . , 1987* ) .

## AIM OF THE WORK .

This work is aimed to evaluate the use of vaginal ultrasonography , in measuring the endometrial thickness as a method for identifying endometrial abnormality in patients with abnormal uterine bleeding .

# REVIEW OF LITERATURE

1-

## PHYSIOLOGY OF THE MENSTRUAL CYCLE

Menstruation is the physiologic shedding of the endometrium of primates , accompanied by uterine bleeding that occurs at approximately monthly interval from the menarche to the menopause . Menstruation is basically a catabolic process under the control of pituitary and ovarian hormones . Its onset , the menarche , usually occurs between the ages of 11 & 14 years . Its termination , the menopause , usually occurs at 45- 55 years of age ( *Benson and Israel , 1976* ) .

The menstrual cycle , that is the interval between the onset of two successive menstruations is under control of complex neuro-hormonal influences . Interactions between the central nervous system , pituitary , ovary and the uterus result in preparation of the organ for implantation of the egg around day 21 of the average 28 day cycle . If implantation does not occur , functional layers of the endometrium along with the menstrual blood are shed and a new cycle begins . The length of the menstrual cycle varies considerably among women . Thus cycles as short as 21 days and as long as 40 days can be considered within physiologic limits unless associated with symptoms or findings indicating pathology ( *Scommegna and Dmowski , 1977* ) .

The duration of the bleeding phase of the menstrual cycle varies between 2-7 days , however it is more or less of a fixed duration for any particular lady ( *Tindall , 1975* ) .

The amount of the menstrual flow is not constant for all women and is influenced by many factors such as general health ,

specific disease , psychic upset , medications as well as the presence or absence of ovulation in the preceeding cycle (Benson and Israel , 1976 ) .

It is estimated to be , on the average 60 mm . but may range from 30-180 mm . ( Scommegna and Dmowski , 1977 ) .

A half to three quarters of menstrual discharge is blood , the result being fragments of endometrial tissue , desquamated vaginal epithelium and mucos The menstrual blood does not clot readily as it contains fibrinolysins which deprive it from its fibrinogen . The activity of fibrinolysins increase progressively during the secretory phase reaching a peak just prior to menstruation . When the menstrual blood is excessive , the flow too great for the amount of lysins available . This will lead to the passage of blood clots typical of menorrhagia ( Dewhurst , 1986 )..

Beller , 1971 suggested that the menstrual clots are not true clots since they do not contain fibrin deposits . They are merely aggregates composed of red cells , mucoid substance , mucoproteins and glycogen .