Comparative Study between 2D, 3D Ultrasound and Hysteroscopy in Diagnosis of Intrauterine Lesions in Cases of Perimenopausal Bleeding

Thesis

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دراسة مقارنة بين الموجات فوق الصوتية ثنائية وثلاثية الأبعاد و المنظار الرحمي في تشخيص آفات الرحم في حالات نزيف ما حول سن اليأس

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Abstract

INTRODUCTION

Perimenopausal bleeding can be defined as uterine bleeding that occurs at unexpected time whether normal or abnormal duration or amount. Diagnosis and treatment of endometrial pathology can nowadays benefit from well-established techniques, ranging from two-dimensional, three-dimensional ultrasound and hysteroscopy.

AIM OF THE WORK

The aim of this work is to compare the sensitivity, specificity, positive predictive value, negative predictive value and overall accuracy of two-dimensional, three-dimensional ultrasound and hysteroscopy in diagnosis of intrauterine lesion in cases of perimenopausal bleeding.

PATIENTS , METHODS AND RESULTS

This study included 80 patients attending the Gynecology outpatient clinic at **AIN SHAMS University Maternity Hospital** during the period from12/ 2009 to 7/ 2010. All patients were subjected to the following: 2D ultrasound, 3D ultrasound, hysteroscopic evaluation& histopathology of (fractional curettage, myomectomy, hysterectomy or polypectomy).

After performing the above mentioned procedures our results revealed that accuracy of 2D in cases of: Adenomyosis (95.5%), Fibroid (88%), Hyperplasia (91.25%) and in Polyps (92%) and accuracy of 3D in cases of: Adenomyosis (97.5%), Fibroid (95%), Hyperplasia (86.25%) and in Polyps (92%) while accuracy of HYSTEROSCOPY in cases of: Adenomyosis (97.5%), Fibroid (87%), Hyperplasia (91.25%) and in polyps (95%).

CONCLUSION

Transvaginal ultrasound is a sensitive method to evaluate the endometrial cavity lesions but hysteroscopy allows direct visualization of the uterine cavity so it can detect small localized intrauterine lesions which could be missed by vaginal ultrasound or curettage.

Key words

Two-dimensional, three-dimensional ultrasound, hysteroscopy, intrauterine lesions and perimenopausal bleeding.

LIST OF CONTENTS

PAGE	**NO**
***List of contents**	**I**
****List of abbreviations.**	**II**
***List of tables.**	**IV**
***List of figures.**	**VII**
***Protocol**	**1**
****Chapter one**	**12**
***Chapter tow**	**23**
***Chapter three**	**40**
***Chapter four**	**93**
***Patients and methods**	**144**
***Results**	**156**
***Discussion**	**182**
****Summary**	**194**
***Conclusion**	**197**
***References**	**198**
***Arabic summary**	

LIST OF ABBREVIATIONS:

2D U/S	Two dimensional ultrasound
3D U/S	Three dimensional ultrasound
DNA	Deoxyribonucleic acid
LH	Lutenizing hormone
MMPs	Matrix metalloproteinases
TIMP	Tissue inhibitor of matrix metalloproteinases
VEGF	Vascular endothelial growth factor
mRNA	microsomal ribonucleic acid
TGF	Transformation growth factor
GDFs	Growth differentiation factors
TNF	Tumor necrosis factor
COX	Cycloxygenase
PGE	Prostaglandin E
WHO	World Health Organization
F.M.P.	Final menstrual period
F.S.H.	Follicle stimulating hormone
STRAW	Stages of the reproductive aging workshop
DUB	Dysfunctional uterine bleeding
C.B.C.	Complete blood count
CT	Computer tomography
MRI	Magnetic reasonant imaging
D&C	Dilatation and curettage
ER	Estrogen receptors
PR	Progesterone receptors
MI	Mitotic index
HPF	High power field
AP1	Activator protein 1
IGF1R	Insulin-like growth factor 1 receptor
HPV	Human papilloma virus
EIN	Endometrial intraepithelial neoplasia

VPS	Volume percentage stroma
AJ	Adherin junction
TJ	Tight junction
PTEN	Tumor suppressor phosphatase and tensin homologue in chromosome ten
D.M.	Diabetes milletus
ESC	Endometrial serous carcinoma
UPSC	Uterine papillary serous carcinoma
FIGO	International federation of gynecology And obstetrics
TVS	Transvaginal ultrasound
ROI	Region of interest
RI	Resisitivity index
VFI	Vascularization flow index
CO_2	Carbon dioxide
NaCl	Sodium chloride
Hg	Mercurary
STEP-w	Size,topography,extension of the base,penetration,lateral wall
SIS	Saline infusion sonohysterography
MHz	Mega hertz
SD	Standard deviation
NY	New York
USA	United States of America
VOCAL	Virtual organ computer aided analysis
VI	Vascularization index
FI	Flow index
AUB	Abnormal uterine bleeding

LIST OF TABLES

NUMBER	*TABLE*	*PAGE*
Table(1)	Patterns of abnormal bleeding	28
Table(2)	Additional etiology of menorrhagia	29
Table(3)	Differential diagnosis of D.U.B.	35
Table(4)	US and MRI criteria in adenomyosis	57
Table(5)	HPV detection in hyperplastic and neoplastic endometrium	68
Table(6)	Subjective histological EIN criteria	71
Table(7)	Tumor classification of FIGO	85
Table(8)	Endometrial thickness by TVS	96
Table(9)	Detection rate of 3D US and hysteroscopy in diagnosing focal lesions	107
Table(10)	Sonographic criteria of adenomyosis	111

Table(11-12)	STEP-w system	133
Table(13)	Descriptive Statistics of the population of the study	156
Table(14)	Parity of the patients among the study group	157
Table(15)	Different clinical presentations among study group	158
Table(16)	Clinical examination among the study group	159
Table(17)	Uterine lesions as detected by 2D U/S	160
Table(18)	Uterine lesions as detected by 3D U/S	161
Table(19)	Uterine lesions as detected by Hysteroscopy	162
Table(20)	Site of focal lesions as detected by 2D U/S	163
Table(21)	Site of focal lesions as detected by 3D U/S	164
Table(22)	Site of focal lesions as detected by Hysteroscopy	165
Table(23)	Performed surgical procedure among the study group	166
Table(24)	Histopathological results comparing to 2D results	167

Table(25)	Histopathological results comparing to 3D results	168
Table(26)	Histopathological results comparing to Hysteroscopy results	169
Table(27)	Comparison between 2D, 3D U/S and hysteroscopy in diagnosis of Adenomyosis	170
Table(28)	Comparison between 2D, 3D U/S and hysteroscopy in diagnosis of Fibroid	171
Table(29)	Comparison between 2D, 3D U/S and hysteroscopy in diagnosis of Hyperplasia	172
Table(30)	Comparison between 2D, 3D U/S and hysteroscopy in diagnosis of Polyps	73

LIST OF FIGURES

NUMBER	*FIGURE*	*PAGE*
Figure (1)	Proliferative phase of the endometrium	14
Figure(2)	Secretory phase of the endometrium	16
Figure(3)	Menstrual phase of the cycle	19
Figure(4)	Gross appearance of fibroid	43
Figure(5)	Microscopic feature of leiomyoma	45
Figure(6)	Gross appearance of leiomyosarcoma	49
Figure(7)	Gross appearance of adenomyosis	53
Figure(8)	Microscopic appearance of adenomyosis	55
Figure(9)	Age distribution of benign polyps	61
Figure(10)	Age distribution of malignant polyps	61
Figure(11)	Gross picture of endometrial polyp	63

Figure(12)	Microscopic appearance of polyps	64
Figure(13)	Microscopy of adenomyomatous polyp	65
Figure(14)	Grades of endometrial hyperplasia	74
Figure(15)	Microscopic appearance of simple hyperplasia	75
Figure(16)	Microscopic appearance of complex hyperplasia	77
Figure(17)	Gross appearance of endometrial carcinoma	87
Figure(18)	Microscopic appearance of endometrial cancer	88
Figure(19)	Endometrial stromal sarcoma	91
Figure(20)	Normal appearance of endometrial cavity by 3D U/S	98
Figure(21)	Motorized tilting 3D scanning approaches	101
Figure(22)	Technique of volume calculation	105
Figure(23)	3D ultrasound of fibroid	108

Figure(24)	2D U/S appearance of adenomyosis	110
Figure(25)	3D ultrasound of adenomyosis	112
Figure(26)	3D ultrasound of endometrial hyperplasia	114
Figure(27)	Normal hysteroscopic appearance of endometrium	125
Figure(28)	Cervical canal polyp by hysteroscopy	128
Figure(29)	Intracavitary fibroid by hysteroscopy	129
Figure(30)	STEP-w classification for hysteroscopic myomectomy	131,132
Figure(31)	Adenomyosis by hysteroscopy	134
Figure(32)	Polypoid endometrial hyperplasia by hysteroscopy	136
Figure(33)	Parity among the study group	157
Figure(34)	Different clinical presentations among the study group	158
Figure(35)	Clinical examination among the study group	159

Figure(36)	Uterine lesions as detected by 2D U/S	160
Figure(37)	Uterine lesions as detected by 3D U/S	161
Figure(38)	Uterine lesions as detected by Hyesteroscopy	162
Figure(39)	Site of focal lesions as detected by 2D U/S	163
Figure(40)	Site of focal lesions as detected by 3D U/S	164
Figure(41)	Site of focal lesions as detected by Hysteroscopy	165
Figure(42)	Performed surgical procedure among the study group	166
Figure(43)	Histopathological results comparing to 2D results	167
Figure(44)	Histopathological results comparing to 3D results	168
Figure(45)	Histopathological results comparing Hysteroscopy results	169
Figure(46)	Comparison between 2D, 3D U/S and hysteroscopy in diagnosis of Adenomyosis	170
Figure(47)	Comparison between 2D, 3D U/S and hysteroscopy in diagnosis of Fibroid	171

Figure(48)	Comparison between 2D, 3D U/S and hysteroscopy in diagnosis of Hyperplasia	172
Figure(49)	Comparison between 2D, 3D U/S and hysteroscopy in diagnosis of Polyps	173
Figure(50)	2D ultrasound of submucous myoma	174
Figure(51)	2D ultrasound of endometrial polyp	174
Figure(52)	2D ultrasound of endometrial hyperplasia	175
Figure(53)	2D ultrasound of adenomyosis	175
Figure(54)	3D ultrasound of endometrial hyperplasia	176
Figure(55)	3D ultrasound of fundal submucous myoma	176
Figure(56)	3D ultrasound of Adenomyosis	177
Figure(57)	3D ultrasound of endometrial polyp	177
Figure(58)	Endometrial polyp	178
Figure(59)	Endometrial polyp	178

Figure(60)	Endometrial cystic polyp	178
Figure(61)	Endometrial cystic polyp	178
Figure(62)	Endometrial cystic polyp	179
Figure(63)	Endometrial polyp	179
Figure(64)	Pedunculated Endometrial polyp	179
Figure(65)	Endometrial polyp	179
Figure(66)	Endometrial polyp	180
Figure(67)	Hypervascularized polyp	180
Figure(68)	Uterine septum& Endometrial polyp	180
Figure(69)	Cystic polyp	180
Figure(70)	Submucous Myoma	181
Figure(71)	Submucous Myoma	181
Figure(72)	Submucous Myoma	181