RESULTS

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Table (1) shows the demographic data of patients with postmenopausal bleeding with respect to patient age, gravidity, and duration of menopause.

Table (2) shows vaginal U/S findings of patients with postmenopausal bleeding with the use of 5 mm cut off value of endometrial thickness. 24 cases (80%) had endometrial hyperplasia, 3 cases (10%) had atrophic endometrium 1 case (3.33%) had proliferative endometrium, 2 cases (6.66%) had sonographic features highly suggestive of endometrial carcinoma, 5 cases (16.66%) had endometrial polyps, 5 cases (16.66%) had submucous lieomyomas, 3 cases (10%) had interstitial leiomyomas.

Table (3) shows histopathological findings by endometrial curettage in patients with postmenopausal bleeding. 22 cases (73.33%) had endometrial hyperplasia, 9 cases (30%) had simple endometrial hyperplasia, 2 cases (6.66%) had cystic endometrial hyperplasia, 11 cases (36.66%) had adenomatous endometrial hyperplasia, 2 cases (6.66%) had atrophic endometrium, 3 cases (10%) had proliferative endometrium, 2 cases (6.66%) had endometrial carcinoma, 1 case (3.33%) had endometritis, 3 cases (10%) had endometrial polyps, 4 cases (13.33%) had submucous leiomyoma.

Table (4) shows histopathological findings after final hysterectomy in patients with postmenopaual bleeding. 23 cases (76.66%) had endometrial hyperplasia 7 cases (23.33%) had simple endometrial hyperplasia, 3 cases (10%) had cystic endometrial hyperplasia, 13 cases

(43.33%) had adenomatous endometrial hyperplasia, 2 cases (6.66%) had atrophic endometrium, and proliferative 2 cases (6.66%) endometial carcinoma, 1 case (3.33%) had endometritis, 5 cases (16.66%) had endometrial polyps, 6 cases (20%) had submucous leiomyoma, 4 cases (13.33%) had interstitial leiomyoma.

Table (5) shows the distribution of endometrial patterns as diagnosed by vaginal U/S, histopathology after endometrial curettage and histopathology after final hysterectomy. In atrophic endometrium vaginal U/S finding in 3 cases (10%), histopathology by endometrial curettage, and histopathology after hysterectomy shows atrophic endometrium in 2 cases (6.66%). In proliferative endometrium vaginal U/S findings in 1 case while histopathology after endometrial curettage 3 cases while in histopathology after hysterectomy 2 cases. In endometrial hyperplasia vaginal U/S findings in 24 cases while in histopathology after endometrial biopsy were 22 cases and histopathology after hysterectomy were 23 cases. In endometrial carcinoma the findings are equal in all 2 cases by vaginal U/S, endometrial biopsy and histopathology after hysterectomy. In endometrial polyp vaginal U/S and histopathology after hysterectomy findings in 5 cases, while by histopathology after endometrial curettage 3 cases. In submcous leiomyoma vaginal U/S findings in 5 cases while in endometrial curettage were 4 cases and histopathology after hysterectomy were 6 cases.

Table (6) shows the relation between results of vaginal U/S and histopathological findings after final hysterectomy with use of 5 mm cut-off value of endometrial thickness as regard 23 cases of endometrial hyperplasia, vaginal ultrasound correctly diagnose 22 cases with 1 case false –ve and 2 cases false +ve. In 2 cases of atrophic endometrium

vaginal U/S correctly diagnose 2 cases with 1 case false +ve and no false –ve cases. Also in 2 cases of proliferative endometrium vaginal U/S correctly diagnose 1 case with 1 case false –ve and no false +ve cases. In 2 cases of endometrial carcinoma vaginal U/S correctly diagnose 2 cases with no false +ve or false –ve cases. In 5 cases of endometrial polyps vaginal U/S correctly diagnose, all cases with no false –ve or false +ve cases in 6 cases of submucous leiomyoma vaginal U/S correctly diagnose 4 cases with 2 cases false –ve and 1 case false +ve. In 4 cases of interstitial leiomyoma vaginal U/S correctly diagnose 2 cases with 2 cases of false –ve and 1 case false +ve.

Table (7) shows the validity of vaginal U/S in diagnosis of endometrial pattern compared to final histopathology after hysterectomy with use of 5 mm cut-off value of endometrial thickness in cases of endometrial hyperplasia, the sensitivity and specificity of vaginal U/S were (95.65%) and 80% respectively. While in endometrial carcinoma, sensitivity and specificity were (100%). The sensitivity and specificity of vaginal U/S in diagnosis of endometrial polyps were 100% in atrophic endometrium the sensitivity and specificity of vaginal U/S were 100% and 96.55% respectively. While in proliferative endometrium the sensitivity were 50% and specificity 100%. In cases of submucous leiomyoma it had 66.66% sensitivity and 96.29% specificity and in interstitial leiomyoma the sensitivity and specificity were 50% and 96.55% respectively.

Table (8) shows the relation between results of histopathological findings after endometrial curettage and results of histopathological findings after final hysterectomy. In 23 cases of endometrial hyperplasia endometrial curettage correctly diagnose 21 cases with 2 cases false –ve

and 1 case false +ve of these 23 cases. Of 7 cases of simple hyperplasia endometrial curettage correctly diagnose them with 2 cases false +ve, and no cases false –ve (as compared to histopathological findings after hysterectomy) of 3 cases of cystic hyperplasia endometrial curettage correctly diagnose 2 cases of them with 1 case false –ve and no cases false +ve of 13 cases of adenomatous hyperplasia endometrial curettage correctly diagnose 11 cases with 2 cases false –ve and no cases false +ve. In 2 cases of atrophic endometrium endometrial curettage correctly diagnose 2 cases with no false –ve or false +ve cases. In 2 cases of proliferative endometrium endometrial curettage correctly diagnose 2 cases with 1 case false +ve and no false -ve cases. In 2 cases of endometrial carcinoma endometrial curettage correctly diagnose 2 cases with no false –ve or false +ve cases. In 1 case of endometritis endometrial curettage correctly diagnose 1 case with no false –ve or false +ve cases. In 5 cases of endometrial polyps endometrial curettage correctly diagnose 2 cases with 3 cases false –ve and 1 false +ve cases (as compared to histopathological findings after hysterectomy) in 6 cases of submucous leiomyoma endometrial curettage correctly diagnose 4 cases with 2 cases false –ve and no false +ve cases (as compared to histopathological after hysterectomy).

Table (9) shows validity of histopathological finding after endometrial curettage in diagnosis of endometrial pattern compared to final histopathological after hysterectomy. In cases of hyperplastic endometrium the sensitivity and specificity of endometrial curettage were (91.3%) and 90% respectively. In simple endometrial hyperplasia the sensitivity were (100%) and specificity were (92%), while in cystic hyperplasia the sensitivity and specificity of endometrial curettage were (66.66%) and (100%) respectively. In adenomatous hyperplasia the

sensitivity of endometrial biopsy were (84.6%) and specificity (100%). In cases of atrophic endometrium, endometrial carcinoma, and endometritis the sensitivity and specificity were 100%. In cases of endometrial polyps the sensitivity and specificity of endometrial curettage were (40%) and (96.55%) respectively. While in submucous leiomyoma the sensitivity were (66.66%) while specificity were (100%).

Table (10) shows comparison between the results of transvaginal U/S and histopathological findings after endometrial curettage with the use of 5 mm cut-off value for endometrial thickness.

Statistically there were no significance P-value in atrophic, proliferative endometrium and also in endometrial hyperplasia, endometrial carcinoma, no significance P-value. In endometrial polyps transvaginal U/S is superior to endometrial biopsy in its specificity where P-value is significance.

Table (1): Demographic characters of patients with postmenopausal bleeding in this study.

Character	Range	Mean ± S.D.
* Age (years)	50-78	61.33 ± 7.3
* Gravidity	2-10	6.9 ± 3.2
* Duration of menopause	1.5-25	9.7 ± 4.1
* Presenting complaint	Number of cases	
- Bleeding	30	
- Pelvic pain	6	
- Pelvic-abdominal mass	2	
- Dysuria	1	
- Pruritus vulvae	1	

Table (2): Vaginal U/S findings with use of 5 mm cut-off level for hyperplastic endometrium.

Vaginal U/S findings	No.	%
Atrophic endometrium	3	10%
Proliferative endometrium	1	3.33%
Hyperplastic endometrium	24	80%
Endometrial carcinoma	2	6.66%
Polyps*	5	16.66%
Submucous leiomyomas*	5	16.66%
Interstitital*	3	10%

* Associations.

Table (3): Histopathological findings by D/C.

Histopathological findings	No.	%
Atrophic endometrium	2	6.66%
Proliferative endometrium	3	10.0%
Endometrial hyperplasia	22	73.33%
- Simple	9	30%
- Cystic	2	6.66%
- Andenomatous	11	36.66%
Endometrial carcinoma	2	6.66%
Endometritis	1	3.33%
Polyps*	3	10%
Submucous leiomyoma*	4	13.33%

* Associations.

Table (4): Histopathological findings after hysterectomy.

Histopathological findings	No.	%
Atrophic endometrium	2	6.66%
Proliferative endometrium	2	6.66%
Hyperplastic endometrium	23	76.66%
Simple	7	23.33%
Cystic	3	10%
Adenomatous	13	43.33%
Carcinoma	2	6.66%
Endometritis	1	3.33%
Polyps*	5	16.66%
Submucous liomyoma*	6	20%
Interstitial*	4	13.33%

* Associations.

Table (5): Distribution of endometrial patterns as diagnosed by vaginal U/S, histopathology after D/C biopsy and histopathology after hysterectomy.

Endometrial pattern (Diagnostic aid)	Atrophic endometri.		Prolif. End.		Endometrial hyperplasia		Endometrial carcinoma		Endometrial polyps		Submucous leiomyoma	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Vaginal U/S	3	10	1	3.33	24	80	2	6.66	5	16.66	5	16.66
Histopathologic findings after D/C biopsy	2	6.66	3	10	22	73.33	2	6.66	3	10	4	13.33
Histopathologic findings after hysterectomy	2	6.66	2	6.66	23	76.66	2	6.66	5	16.66	6	20

Table (6): Vaginal U/S versus histopathology after hysterectomy with use of 5 mm cut-off value for hyperplastic endometrium.

Histopathologial diagnosis	No. of patient (total = 30)	Vaginal U/S diagnosis		
		True +ve	False –ve	False +ve
Atrophic endometrium	2	2	0	1
Proliferative endometrium	2	1	1	0
Endometrial hyperplasia	23	22	1	2
Endometrial carcinoma	2	2	0	0
Endometrial polyps*	5	5	0	0
Submucous leiomyoma*	6	4	2	1
Interstitial leiomyoma*	4	2	2	1

* Associations

Table (7): Validity of vaginal U/S in the diagnosis of endometrial patterns compared to histopathology after hysterectomy.

Histopathological diagnosis	Sensitivity	-ve predictive value	Specificity	+ve predictive value	False – ve rate	False +ve rate	Accuracy
Atrophic endometrium	100%	100%	96.55%	66.66%	0	3.44%	96.77
Proliferative endometrium	50%	96.66%	100%	100%	50%	0	96.77
Endometrial hyperplasia	95.65%	88.88%	80%	91.66%	4.34%	20%	90.9
Endometrial carcinoma	100%	100%	100%	100%	0	0	100
Endometrial polyps*	100%	100%	100%	100%	0	0	100
Submucous leiomyoma*	66.66%	92.83%	96.29%	80%	33.33%	3.84%	90.9
Interstitial leiomyoma*	50%	93.33%	96.55%	66.66%	50%	3.44%	90.9

* Associations

Table (8): Histopathological findings done by D/C versus histopathological findings after hysterectomy.

Histopathologial diagnosis after hysterectomy	No. of patient (total = 30)	Histopathological diagnosis after D,C		
		True +ve	False –ve	False +ve
Atrophic endometrium	2	2	0	0
Proliferative endometrium	2	2	0	1
Endometrial hyperplasia	23	21	2	1
- Simple	7	7	0	2
- Cystic	3	2	1	0
- Adenomatous	13	11	2	0
Endometrial carcinoma	2	2	0	0
Endometritis	1	1	0	0
Endometrial polyps*	5	2	3	1
Submucous leiomyoma*	6	4	2	0

* Associations

Table (9): Validity of histopathological findings by D/C in the diagnosis of endometrial pattern compared to histopathological findings after hysterectomy.

Histopathological diagnosis	Sensitivity	-ve predictive value	Specificity	+ve predictive value	False – ve rate	False +ve rate	Accuracy
Atrophic endometrium	100%	100%	100%	100%	0	0	100%
Proliferative endometrium	100%	100%	96.55%	66.66%	0	3.44%	96.77%
Hyperplastic endometrium	91.3%	81.81%	90%	95.54%	8.69%	10%	90.9%
- Simple	100%	100%	92%	77.77%	0	8%	93.75%
- Cystic	66.66%	96.55%	100%	100%	33.33%	0	96.77%
- Adneomatous	84.6%	86.36%	100%	100%	15.38%	0	93.75%
Endometrial carcinoma	100%	100%	100%	100%	0	0	100%
Endometritis	100%	100%	100%	100%	0	0	100%
Endometrial polyps*	40%	90.32%	96.55%	66.66%	25%	3.44%	88.33%
Submucous leiomyoma*	66.66%	92.85%	100%	100%	33.33%	0	93.75%

* Associations

Table (10): Comparison between the results of transvaginal U/S and histopathology after D/C.

Endometrial pattern	Sensitivity	-ve predictive value	Specificity	+ve predictive value	Accuracy
Endometrial atrophy					
- T.V.S.	100%	100%	96.55%	66.66%	96.77%
- Histopathology after D/C	100%	100%	100%	100%	100%
P-value	-	-	>0.05**	> 0.05**	> 0.05**
Proliferative endometrium					
- T.V.S.	50%	96.66%	100%	100%	96.77%
- Histopathology after D/C	100%	100%	96.55%	66.66%	96.77%
P-value	> 0.05**	> 0.05**	> 0.05**	> 0.05**	-
Endometrial hyperplasia					
- T.V.S.	95.66%	88.88%	80%	91.66%	90.9%
- Histopathology after D/C	91.3%	81.81%	90%	95.54%	90.9%
P-value	> 0.05**	> 0.05**	> 0.05**	> 0.05**	-
Endometrial carcinoma					
- T.V.S.	100%	100%	100%	100%	100%
- Histopathology after D/C	100%	100%	100%	100%	100%
P-value	-	-	-	-	-
Endometrial polyps*					
- T.V.S.	100%	100%	100%	100%	100%
- Histopathology after D/C	40%	90.3%	96.55%	66.66%	88.73%
P-value	< 0.05***	> 0.05**	> 0.05**	> 0.05**	> 0.05**
Submucous leiomyoma*					
- T.V.S.	66.66%	92.85%	96.29%	80%	90.9%
- Histopathology after D/C	66.66%	92.85%	100%	100%	93.75%
P-value	-	-	> 0.05**	> 0.05**	> 0.05**

* Associations

** Non significant

*** Significant

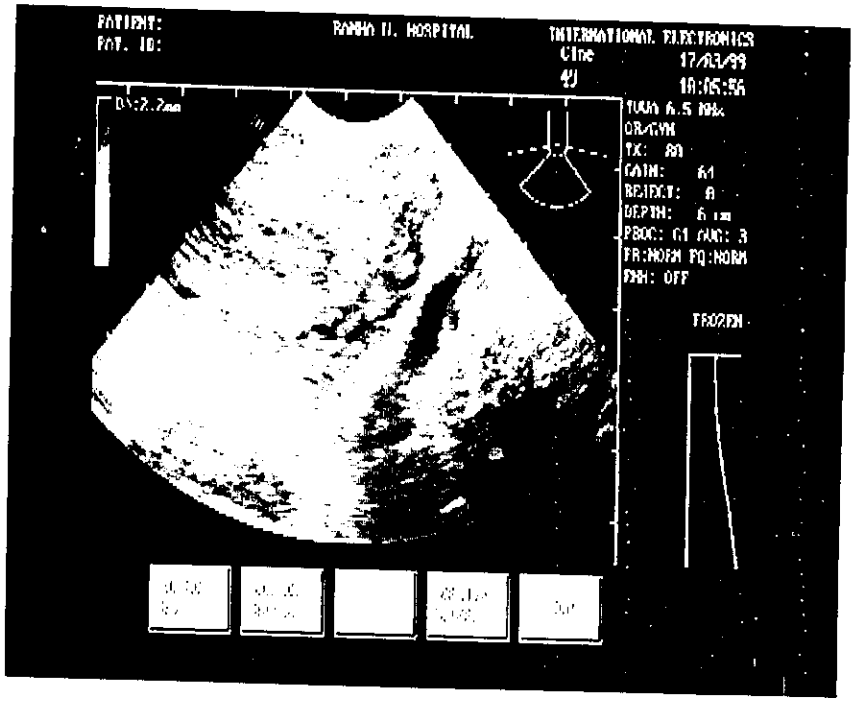

Fig. (1a): Shows sonographic picture of atrophic endometrium.

Fig. (1b): Shows histopathological picture of atrophic endometrium with use of haematoxylin and eosin (100).

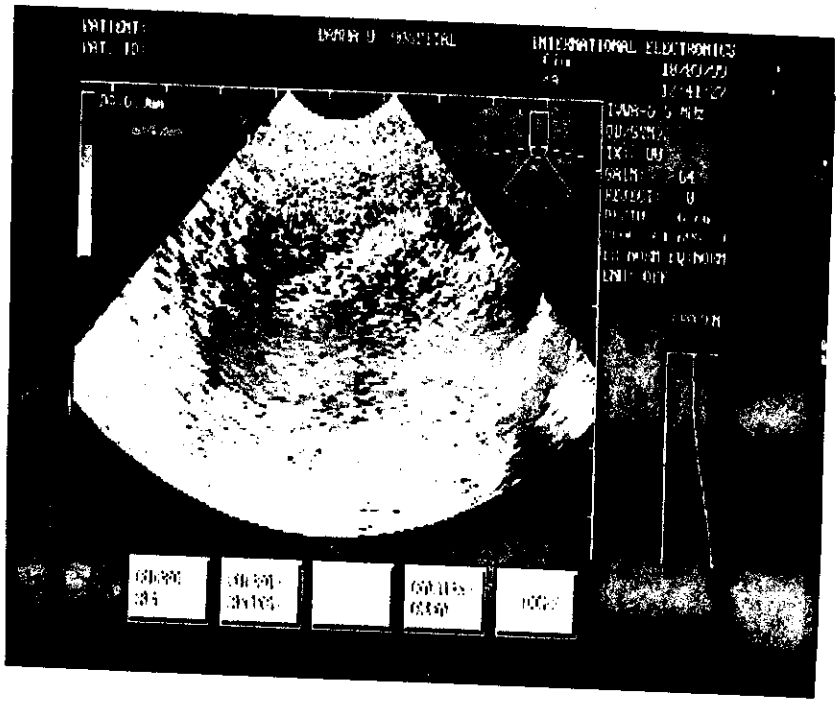

Fig. (2a): Shows sonographic picture of proliferative endometrium.

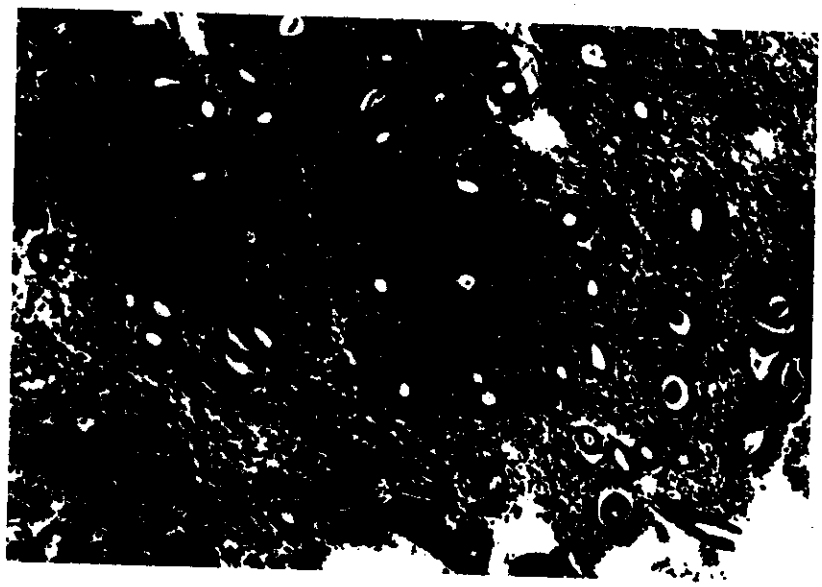

Fig. (2b): Shows histopathological picture of proliferative endometrium (100).

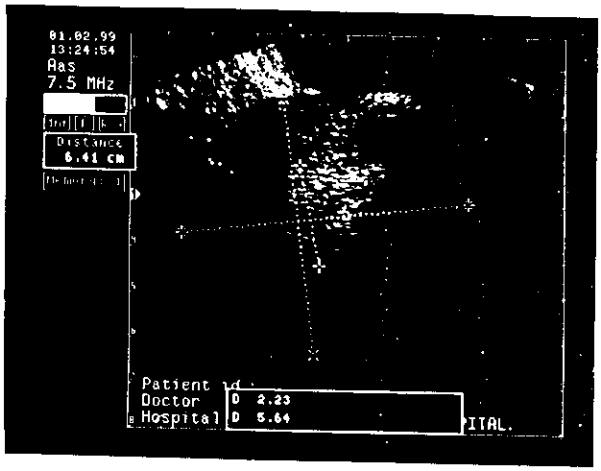

Fig. (3a): Shows sonographic picture of endometrial hyperplasia.

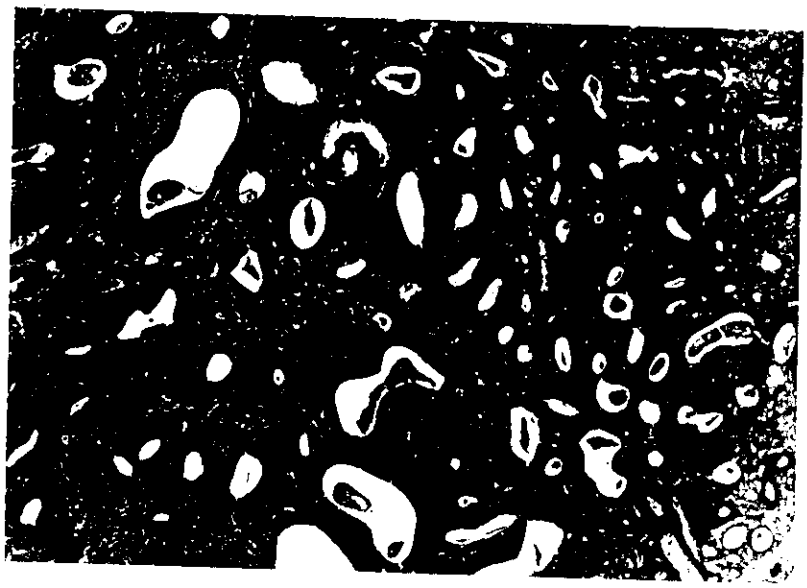

Fig. (3b): Shows histopathological picture of simple endometrial hyperplasia (40).

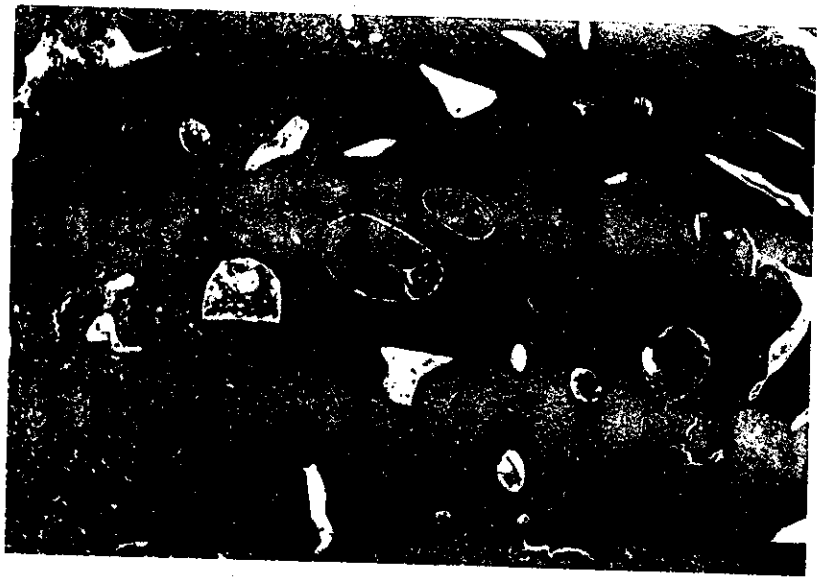

Fig. (3c): Shows histopathological picture cystic endometrial hyperplasia (40).

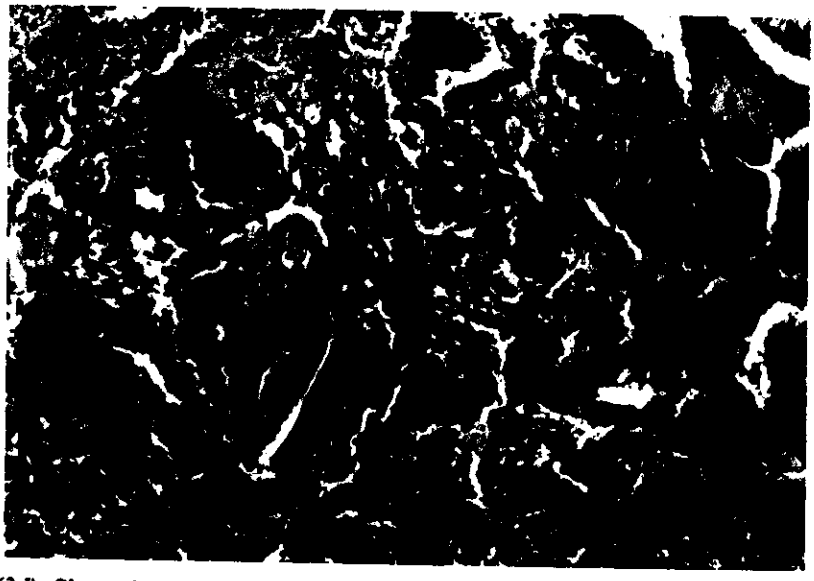

Fig. (3d): Shows histopathological picture of adenomatous endometrial hyperplasia (200)

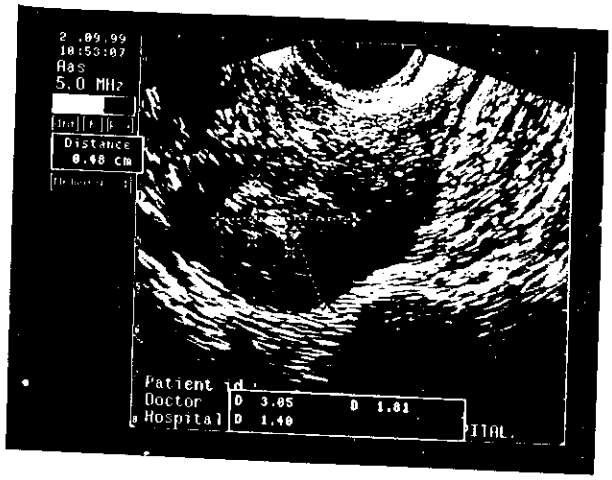

Fig. (4a): Shows sonographic picture of endometrial carcinoma.

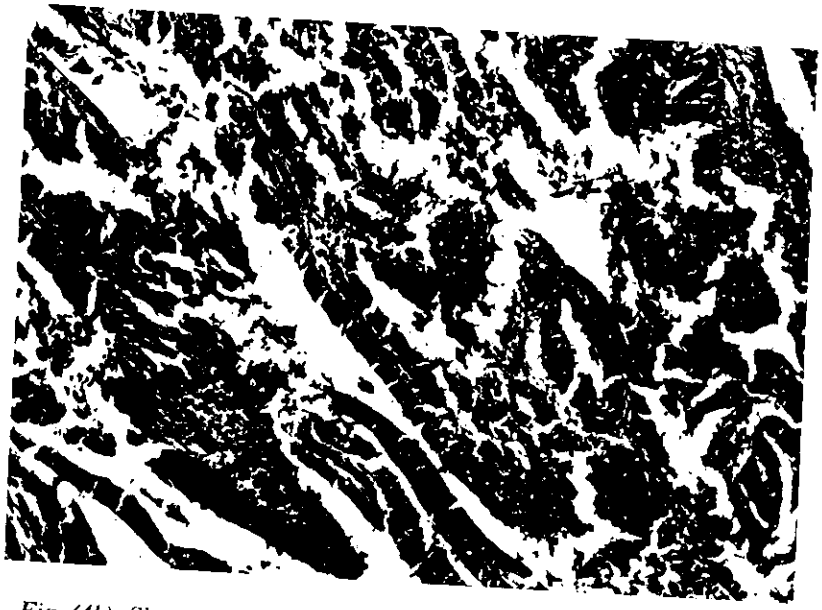

Fig. (4b): Shows histopathological picture of endometrial carcinoma (400).

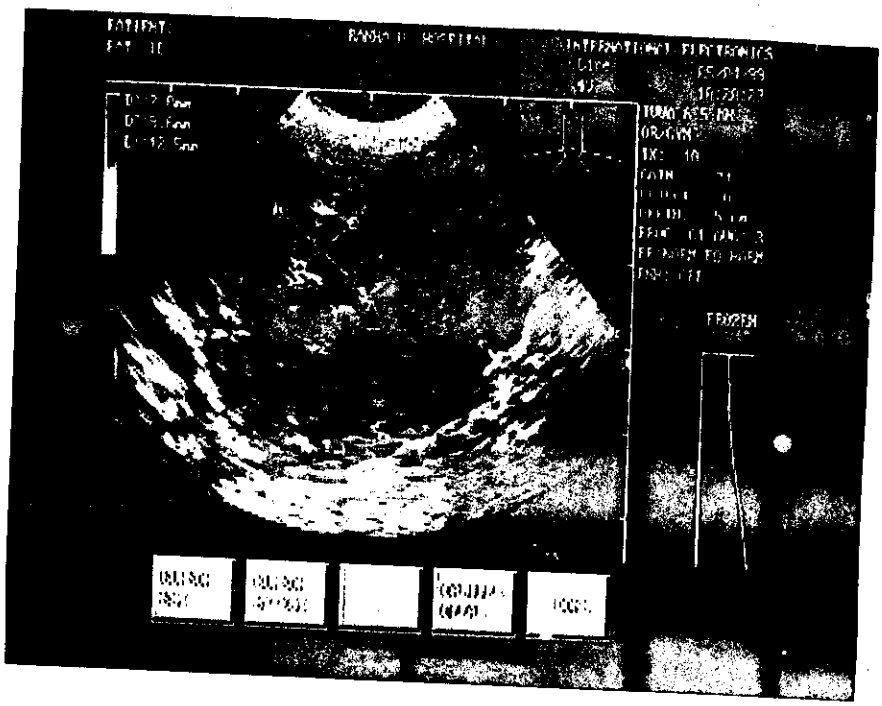

Fig. (5a): Shows a sonographic picture of endometrial polyp.

Fig. (5b): Shows histopathological picture of endometrial polyp (200).

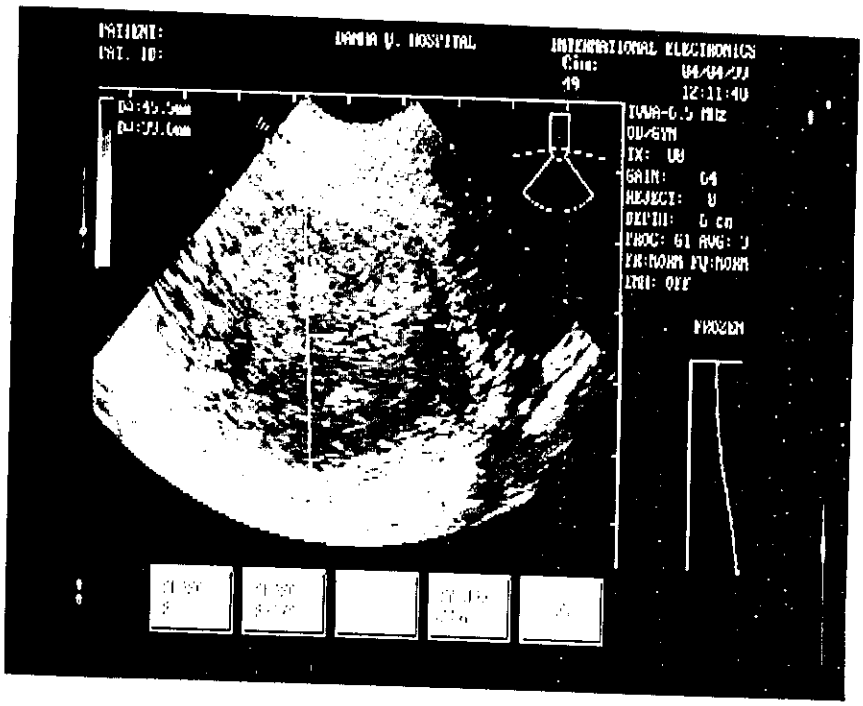

Fig. (6a): Shows sonographic picture of submucous leiomyoma.

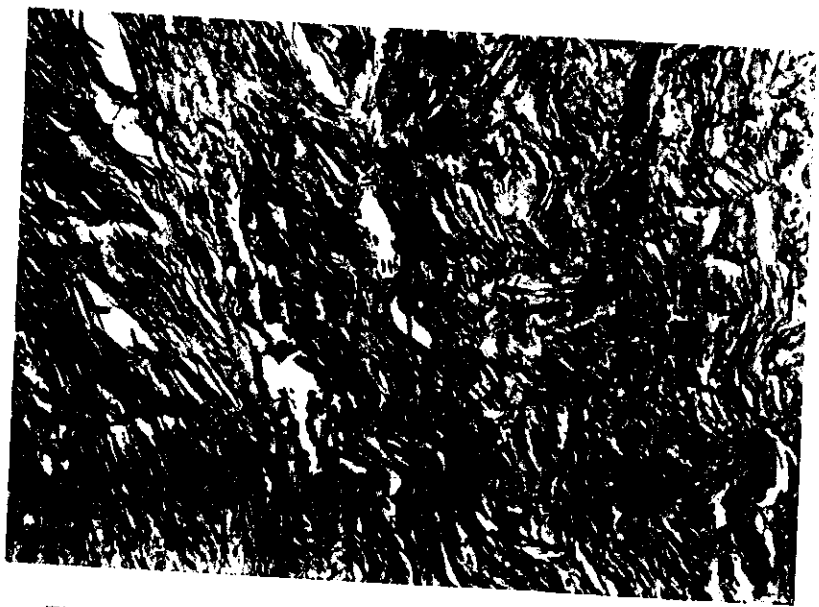

Fig. (6b): Shows histopathological of submucous leiomyoma (100).