Original Research Article

Histomorphological Study of Uterus and Cervix and Correlation with Clinical Diagnosis

Dr. Vijaya Gattu[1], Dr. Soumya Vellanki[2], Dr. R Manasa Reddy[3], Dr. K.P.A Chandra Sekhar[4]

[1, 2, 3,] Assistant Professor, [4]Professor, Department Of Pathology, SVS Medical College, Yenugonda, Mahabubnagar, Telangana, India

*Corresponding author

Dr. Vijaya Gattu

Email: vijjupatho@gmail.com

Abstract: Hysterectomy is most commonly performed gynecological surgery for various pelvic pathologies like leiomyoma, dysfunctional uterine bleeding (DUB), chronic pelvic pain, endometriosis, adenomyosis, prolapse, and malignancies, since early twentieth century. The present study is aimed at a detailed histopathological evaluation of all lesions of hysterectomy specimens in the Department of Pathology, SVS Medical College & Hospital, Mahabubnagar during the period of two years between September 2012 to August 2014. All specimens after fixation in 10% buffered formalin, processed and then stained with Hematoxylin & Eosin to study various histopathological patterns. Most common clinical indications for hysterectomy were fibroid, DUB. Most common pathologies identified were leiomyoma and chronic nonspecific cervicitis. Histopathological study of uterine and cervix lesions is mandatory in establishing the final diagnosis.

Keywords: Hysterectomy, histopathology, uterus, cervix.

INTRODUCTION

Uterus is a vital reproductive organ, subjected to many non-neoplastic and neoplastic diseases. Hysterectomy still remains the most common gynecological procedure performed worldwide. Uterus is constantly under the influence of hormones, the histology & pathological lesions show a wide variation [1].

AIM AND OBJECTIVES

1. To study the gross and histopathological findings in hysterectomy specimens and to correlate with the clinical diagnosis.
2. To analyze the distribution of histopathological findings in various age groups.
3. To study the various associated and incidental organic pathology in the hysterectomy specimens.
4. To aid in the differential diagnosis of similar lesions.

METHODOLOGY

This is a prospective study of 200 cases conducted in the Department of Pathology, S.V.S. Medical College, Mahabubnagar from September 2012 to August 2014.

Clinical details of the patients were obtained from gynecology department. The specimens were immediately transferred into 10% fresh formalin. After 24 hours fixation, the specimen was examined grossly and mutiple bits were taken from representative sites, processed, slides were prepared & stained with routine by H & E stain. The histomorphological study of uterus and cervix was done systematically and the histological findings were correlated with the clinical findings and clinical diagnosis.

OBSERVATIONS AND RESULTS

A total of 200 cases were studied. The incidence of hysterectomies with respect to age was analyzed. The age ranged from 21-80 years with a mean age of 41.8 years. The maximum numbers of hysterectomies were noted in the 5th decade with 80 cases (40.0%).

The commonest route of hysterectomy was abdominal 195 cases (97.50%) & most common type was TAH 74 cases (37%).

The various clinical indications were analyzed & depicted in Table 1. Majority of patients presented with fibroid uterus 98 cases (49%) followed by DUB in

52 cases (26%) & in 18 cases (9%) diagnosis was not offered.

Histopathological findings were analyzed & depicted in Table 2. Proliferative, Secretory & Atrophic Endometrium were the most common endometrial findings seen in 170 cases (85%) followed by leiomyoma 120 cases (60%) and adenomyosis 50 cases (25%). Maximum number of cases showed Chronic nonspecific cervicitis as main cervical pathology 181 cases (90.50%), other less frequent cervical pathologies encountered were nabothian cysts 25 cases (12.50%),

cervical dysplasia 16 cases (8.00%).

Rarest and interesting lesions encountered were 1 case (00.50%) of lipoleiomyoma & 1 case (00.50%) of benign cellular leiomyoma.

96 % of study subjects who belong to less than 50 year age group has Fibroid and DUB as their common clinical indication. Only 4% of study subjects who belong to more than 50 year age group are clinically diagnosed as Fibroid and DUB. This difference was found to be statistically significant.

Table 1: Shows the clinical indication for hysterectomy in the study group

Sl. No	Clinical Diagnosis	No. Of Cases	Percentage%
1	Fibroid uterus	98	49.00
2	DUB	52	26.00
3	Prolapsed uterus	10	05.00
4	Polyp uterus	06	03.00
5	Cervical dysplasia	02	01.00
6	Carcinoma cervix	05	02.50
7	Carcinoma uterus	06	03.00
8	Cervical polyp	03	01.50
9	No diagnosis offered	18	09.00
	Total	200	100

Table 2: Incidence of histopathological findings for 200 cases

Sl. No	Histopathological Findings	No. Of Cases	Percentage %
1	No significant lesions in endometrium(PP, SP, AP)	170	85.00
2	CGH	07	03.50
3	Endometritis(TB)	02	01.00
4	Endometrial Polyp	13	06.50
5	Leiomyoma/Leiomyomatous polyp	120	60.00
6	Adenomyosis	50	25.00
7	Medial Calcific Sclerosis	06	03.00
8	Simple hyperplasia	12	06.00
9	Complex atypical hyperplasia	02	01.00
10	Leiomyolipoma	01	00.50
11	Adenocarcinoma of endometrium	08	04.00
12	CNSC	181	90.50
13	NC	25	12.50
14	Endocervical polyp	02	01.00
15	Cervical dyspasia	16	08.00
16	Leiomyoma –Cx	02	01.00
17	SCC – Cervix	05	02.50
18	Adenocarcinoma-Cx	04	02.00

Table 3: Distribution Clinical diagnosis Vs Final diagnosis

Final diagnosis	Clinical diagnosis								
	No Diagnosis offered	Ca Ut.	Ca Cx.	CD	CP	DUB	F Ut.	P Ut.	Pro Ut.
ACE	1	6	0	0	0	1	0	0	0
LM	0	0	0	0	0	4	74	3	3
LM,AM	0	0	0	0	0	6	6	0	0
CGH,AM	0	0	0	0	0	2	0	0	0
TB E , LM	0	0	0	0	0	0	2	0	0
EP,LM	0	0	0	0	0	4	0	0	0
AM	1	0	0	0	0	15	5	0	0
AHE, LM	0	0	0	0	0	0	2	0	0
CX-LM	0	0	0	0	1	0	0	0	0
EP	0	0	0	0	0	1	3	1	0
EP,AM	0	0	0	0	0	2	0	0	0
EP,SH	0	0	0	0	0	0	0	2	0
SH,AM	0	0	0	0	0	10	0	0	0
ECP	0	0	0	0	2	0	0	0	0
CD,AM,LM	0	0	0	2	0	5	3	0	6
SCC-CX	0	0	3	0	0	0	0	0	0
SCC-CX,LM	0	0	0	0	0	1	1	0	0
ADENOCA-CX	0	0	2	0	0	0	2	0	0
LEIOMYOLIPOMA	1	0	0	0	0	0	0	0	0
NO SIGNIFICANT PATHOLOGY	15	0	0	0	0	2	0	0	1
TOTAL	18	6	5	2	3	52	98	6	10

Table 4: Comparision Of Age Group And Clinical Indication

Clinical Indication	< 50 Age Group	>50 Age Group	Total
Fibroid and DUB	144 (96%)	6 (4%)	150
Other indications	31	19	50
TOTAL	175	25	200
$X^2 = 39.6$	df = 1	p Value = <0.05	Significant

Fig-1: Grey White – Grey Yellow Nodular Mass – Lipoleiomyoma
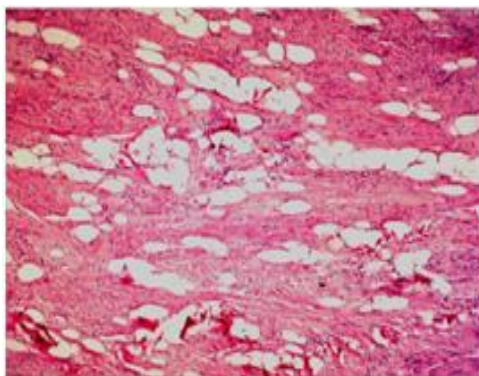
Fig-2: Lipoleiomyoma(H&E)

DISCUSSION

Hysterectomy is the most commonly performed major gynecological surgery throughout the world. It is a successful operation in terms of symptom relief and patient satisfaction and provides definitive cure to many diseases involving uterus as well as adnexa.

In our study, incidence of abdominal (74.00%) hysterectomy was higher than the vaginal (2.5%), as in the studies done by Priya Bhide *et al* [2] with 54.8% being abdominal and 45.2% being vaginal.

In our study, the age ranged from 21-80 years with a mean age of 41.8 years. In the Priya Bhide *et al* [2] series, the age range was 28-58 years with a mean of 37.3 years and in Gautam Allahbadia *et al* [4] series, the age range was 30-69 years with a mean age of 35 years.

The peak age incidence of hysterectomy was in the 5th decade in our study. The study done by Kasturi Lal *et al* [5], Ajmera Sachin K *et al* [3] and Yogesh Neena *et al* [19] had similar findings.

The most common clinical indication for hysterectomy in our study was uterine fibroid in 98 cases (49%). Similar findings were observed in the Ajmera Sachin K *et al* [3] series in 170 cases (48.6%) and Stewart and Arti [6] series in 33 cases (33%).

The incidence of Endometrial Polyps varied in different studies. In the Present study, it was 6.5 %, whereas in Yogesh Neena *et al* [19] series, it was 3.47.

In our study, the peak age incidence of endometrial polyp was 41-50years. Similar findings were observed in the Peterson and Novak [11] series, where the age incidence was 40-49 years.

The incidence of adenomyosis was 25.0% in our study. The incidence was, 21.1% in Sunita Malik *et al* [7] series. In the Present study, peak age incidence of Adenomyosis was in the 5th decade with 44.0%. In the

Kasturi Lal *et al* [5] series, the peak age incidence was in the 5th decade with 48.57%.

The incidence of leiomyoma in our study was 60.0%. In Stewart & Arti *et al* series [6], the incidence was 52% and in Shakira Perveen *et al* [20] the incidence was 59.2% which is comparable to the Present study.

In our study, the peak age incidence of leiomyoma was in the 4th decade with 55 cases (45.0%) followed by 50 cases (41.5%) in the 5th decade. In Fabio Parazzini *et al* [12] series, the age incidence was in the 5th decade with 170 cases (61.8%).

The peak age incidence of endometrial carcinoma in the Present study was between 41 and 50 years, whereas in the study by Pellerin and Finan [14], the peak age incidence was between 50 and 59 years and in Henry CF *et al* [13] series, it was between 60 and 69 years.

In our study, the incidence of carcinoma endometrium was 9 cases (4.0%) of the total 200 cases. In the John J. Molitor [8] series, it was 4 cases (1.42) of the total 281 cases and in Veena S. Naik *et al* [9] series, it was 10 cases (9.61%) of the total 108 cases.

In our study, the incidence of cervical dysplasia was 16 cases (8.0%) of 200 cases. Low incidence was noted in the John J.Molitor [6] series with 0.36% and high incidence was noted in Kasturi Lal *et al* [10] series.

In our study, the peak age incidence of carcinoma cervix was noted between 51 and 60 years with 5 cases (55.6%) which is comparable to that of the Corscaden15 series in which it was between 45 and 55 years.

The incidence of carcinoma cervix in the Present study was 9 cases (4.5%) of the total 200 cases. The Present study was comparable to that of Gautam Allahbadia *et al* [4] with 3 cases (3%) of 100 cases.

In our study, 2 cases (1.6%) of leiomyoma of cervix was noted. According to Usha *et al* [16], benign tumors of the cervix constitute about 37.9% of all the benign tumors of uterine corpus and cervix. Leiomyoma of cervix were seen in 7 cases (6.03%) in the Usha *et al* [16] series.

In our study, 1 case (00.50%) of rare & interesting lesion of lipoleiomyoma was encountered. The patient was aged 40 years, presented with bleeding per vagina with a clinical diagnosis of fibroid. Grossly, it was circumscribed, on cut section grey yellow in color.

In our study overall clinicopathological correlation was observed in 67 % of cases. A prospective study done by Khan and Sultana [18] in 100 cases of abdominal hysterectomy performed over a period of 2 years - 77% of cases correlated clinically with histopathological diagnosis and the most common indication as well as most common lesion in their study was leiomyoma.

Clinicopathological correlation in the our study is (67%) which is closer to that of Khan and Sultana study [18].

In our study there was a very high clinicopathological correlation when the clinical diagnosis were cervical polyp (100%), prolapsed uterus (90%) and fibroid uterus (81.7%).

The clinical and pathological correlations are poor when cervical dysplasia, endometrial polyp and DUB were the clinical diagnosis.

This is similar to two year study done by Saleh. S and Fram. K 2011 [17] in 137 women who underwent hysterectomy.

CONCLUSION

While correlating the clinical diagnosis by final histopathological diagnosis. High correlation rates were found for cervical polyp, leiomyoma and endometrial malignancy. Majority of the patients clinically diagnosed as DUB were found to have adenomyosis.

A clinicopathological correlation is necessary for proper interpretation of the diagnosis. This was done in our study, where clinical findings were correlated with the pathological findings. In our study, clinico-morphological correlation was done and observed in 67 % of cases. Our study correlates with other studies in India and abroad. A wide range of lesions are encountered when hysterectomy specimens are subjected to HPE. Though the histopathological analysis correlated well with clinical diagnosis, quite a few lesions are also encountered as incidental findings.

Hence it is mandatory that every hysterectomy specimen, even if it is grossly appears to be normal, it should be subjected to detailed HPE. So histopathological examination is mandatory for confirming the diagnosis and thus ensuring the proper management.

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