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HISTOPATHOLOGICAL SPECTRUM OF NON NEOPLASTIC AND NEOPLASTIC LESIONS OF UTEROCERVIX IN NORTH WEST RAJASTHAN

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Abstract

Background: The female genital tract includes the uterine corpus, cervix, fallopian tubes and ovaries. Women worldwide suffer from gynaecologic and obstetric disorders that require hysterectomy as a treatment option. Hysterectomy is a definite treatment of pelvic pathology including fibroid, abnormal heavy bleeding, chronic pelvic pain, endometriosis, adenomyosis, uterine prolapse, pelvic inflammatory disease and cancer of reproductive organs. Hysterectomy specimens contribute a major component of histopathological work in Pathology laboratories.

Methods: This is a prospective study carried out in the Department of Pathology, SPMC, Bikaner for two years from October 2018 to September 2020. All surgically excised hysterectomy specimens received by the department during study period were included in the study. Tissues were fixed and processed as per departmental protocols. Pieces taken from ectocervix, endocervix, uterine canal and fundus. Pieces also taken from any abnormal area. Tissue bits routinely processed 3 to 6 micron thick sections made from paraffin embedded blocks and were stained with H&E stain. Special stains will be done whenever necessary.

Results: We included a total of 148 cases of hysterectomies received to our department during the study period in our study. Of total 148 cases, 87.83% hysterectomies were abdominal and 12.16% were vaginal and TAHBSO was the commonest procedure. In myometrium the most common finding was leiomyoma and adenomyosis with 79.73% and 43.92% cases respectively. In cervix, most cases were inflammatory lesions with chronic nonspecific cervicitis was the most common histopathological finding. Two cases (1.37%) of carcinoma cervix were reported.

Conclusions: Most of the cases which underwent hysterectomy were for symptomatic untreatable benign conditions and few for malignancies. Majority of the cases were histopathologically consistent with clinical diagnosis. Histopathological examination and its correlative study with preoperative clinical diagnosis is very important. Thus, histopathological examination is still the gold standard test to diagnose and rule out malignancy and must be compulsory for all the surgical specimens.

Keywords: Hysterectomy, Uterocervix, Pathology

Introduction

The female genital tract includes the uterine corpus, cervix, fallopian tubes and ovaries. Women worldwide suffer from gynaecologic and obstetric disorders that require hysterectomy as a treatment option. This may also involve removal of the fallopian tube and ovary depending on clinical indication, age and parity of the woman.[1] The uterus and cervix are prone to develop several non-neoplastic and neoplastic conditions during the life time of a woman. The diseases are seen across all age groups and contribute significantly to increased morbidity and mortality amongst women.[2]

Hysterectomy is a definite treatment of pelvic pathology including fibroid, abnormal heavy bleeding, chronic pelvic pain, endometriosis, adenomyosis, uterine prolapse, pelvic inflammatory disease and cancer of reproductive organs.[3] Hysterectomy specimens contribute a major component of histopathological work in Pathology laboratories. Hysterectomy can be done through an abdominal or vaginal route and it can be accompanied by salpingo-oophorectomy of either one or both sides. Most vaginal hysterectomies are done for uterine prolapse and patients are older than those undergoing abdominal hysterectomies. Uterine fibroids and adenomyosis are the most common benign conditions in hysterectomy specimens in Saudi Arabia community with peak incidence at 41-50 years.[4] Ultimate diagnosis is only on histology, so every hysterectomy specimen should be subjected to histopathological examination.

The present study is aimed at a detailed histopathological evaluation of all hysterectomy specimens and to study the pattern of pathological changes of different diseases occurring in cervix and uterus in relation to different age groups.

Materials and Methods

This study was carried out in the Department of Pathology, Sardar Patel Medical College and Associated Group of

Hospitals, Bikaner prospectively for two years from October 2018 to September 2020. All surgically excised hysterectomy specimens received by the department during study period were included in the study. Improper and autolysed specimens and cases without proper clinical history were excluded. Clinical history and relevant investigations were noted from clinical records. Gross examination was carried out on specimens. Specimens immediately transferred to 10% formalin for 24 hours then grossed. The gross findings were noted. Pieces taken from ectocervix, endocervix, uterine canal and fundus. Pieces also taken from any abnormal area .Tissue bits routinely processed 3 to 6 micron thick sections made from paraffin embedded blocks and were stained with H&E stain. Special stains will be done whenever necessary.

Results

We included a total of 148 cases of hysterectomies received to our department during the study period in our study. Of total 148 cases, 130 (87.83%) hysterectomies were abdominal and 18 (12.16%) were vaginal hysterectomies. Of the 130 abdominal hysterectomies, total abdominal hysterectomy with bilateral salphingo-oophorectomy was the commonest with 105 cases (70.95%), followed by total abdominal hysterectomy in 23 cases (15.54%) (Table 1). In this study uterine fibroid was the most common clinical indication for hysterectomy in 68 cases (45.95%) followed by DUB in 46 cases (31.08%). In 4 cases, the diagnosis was not offered (Table 2).

Table 1: Distribution of cases according to type of Hysterectomy in the study group

Sl. No.	Type of Hysterectomy	No. of cases	Percentage (%)
1	TAH	23	15.54
2	TAH+BSO	105	70.95
3	Sub total Hysterectomy	1	0.68
4	Vaginal Hysterectomy	17	11.49
5	Vaginal hysterectomy with anterior coloporaphy	1	0.68
6	Wertheim's hysterectomy	1	0.68
	Total	**148**	**100.00**

Table 2: Shows the Clinical indication for hysterectomy in the study group

Sl. No.	Clinical Diagnosis	No. of Cases	Percentage (%)
1	DUB	46	31.08
2	Primary PPH	1	0.68
3	Bleeding PV	12	8.11
4	uterine fibroids	68	45.95
5	uv prolapse	13	8.78
6	Menorrhagia	2	1.35
7	Ca Endometrium	1	0.68
8	chronic PID	1	0.68
9	No diagnosis provided	4	2.70

In our study the age ranged from 28-80 years with a mean age of 45.68 years with most common age group affected was fourth decade (43.24%) followed by third decade of life (33.11%) (Image 1).

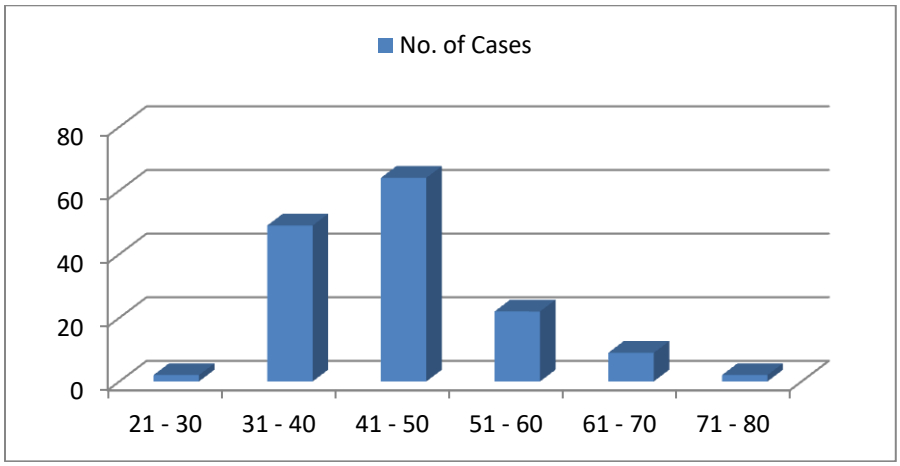


Image 1: Distribution of cases according to the Age groups in the study population

The most common finding reported in endometrium was proliferative phase (88.51%) followed by secretory phase with 7.43% cases (Table 3). One case of adenocarcinoma endometrium (0.68%) was reported.

Table 3: Shows the histopathological spectrum of findings of endometrium in the study group

Sl. No.	Diagnosis	No. of cases	Percentage (%)
1	Proliferative phase	131	88.51
2	Proliferative phase with cystic dilatation of glands	2	1.35
3	Secretory phase	11	7.43
4	Hypertrophic and Edema with haemorrhage	1	0.68
5	Chronic inflammatory infiltrate	1	0.68
6	Atrophied	1	0.68
7	Adenocarcinoma	1	0.68

In myometrium the most common finding was leiomyoma and adenomyosis with 79.73% and 43.92% cases respectively. The most common type of leiomyoma was of intramural type with 72.88% occurrence. One case of leiomyosarcoma (0.68%) was reported in this study (Table 4).

Table 4: Shows the histopathological spectrum of findings of myometrium in the study group

Sl. No.	Diagnosis		No. of cases	Percentage (%)
1	Leiomyoma		118	79.73
		Submucosal	12	10.17
		Intramural	86	72.88
		Subserosal	18	15.25
		Grossly not seen	2	1.69
2	Leiomyosarcoma		1	0.68
3	Adenomyosis		65	43.92
4	Hypertrophy of myometrium		1	0.68

The most common age group for occurrence of both leiomyoma and adenomyosis is 4th decade followed by third decade in our study (Image 2). The presenting complaint in cases of both leiomyoma and adenomyosis was uterine fibroid clinically followed by dysfunctional uterine bleeding (Image 3).

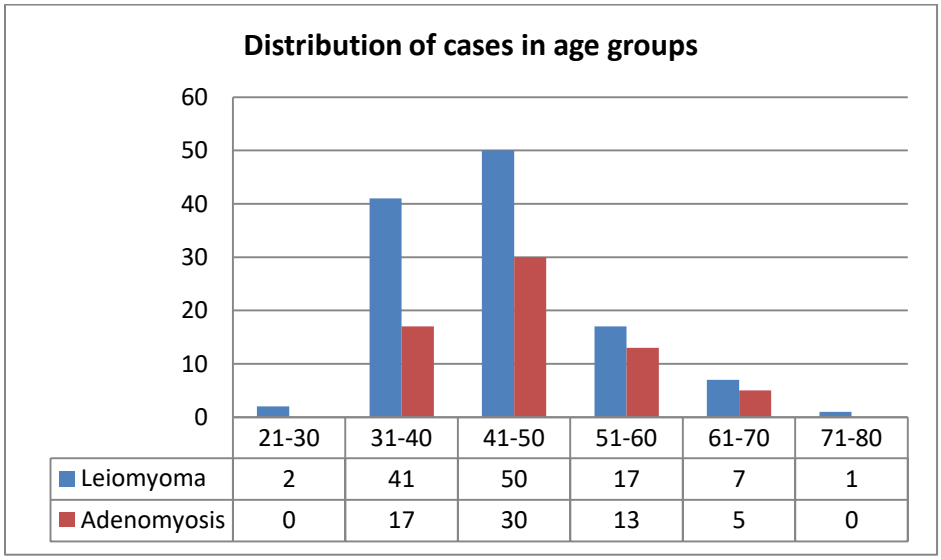


Image 2: Distribution of cases of leiomyoma and adenomyosis according to the Age groups in the study population

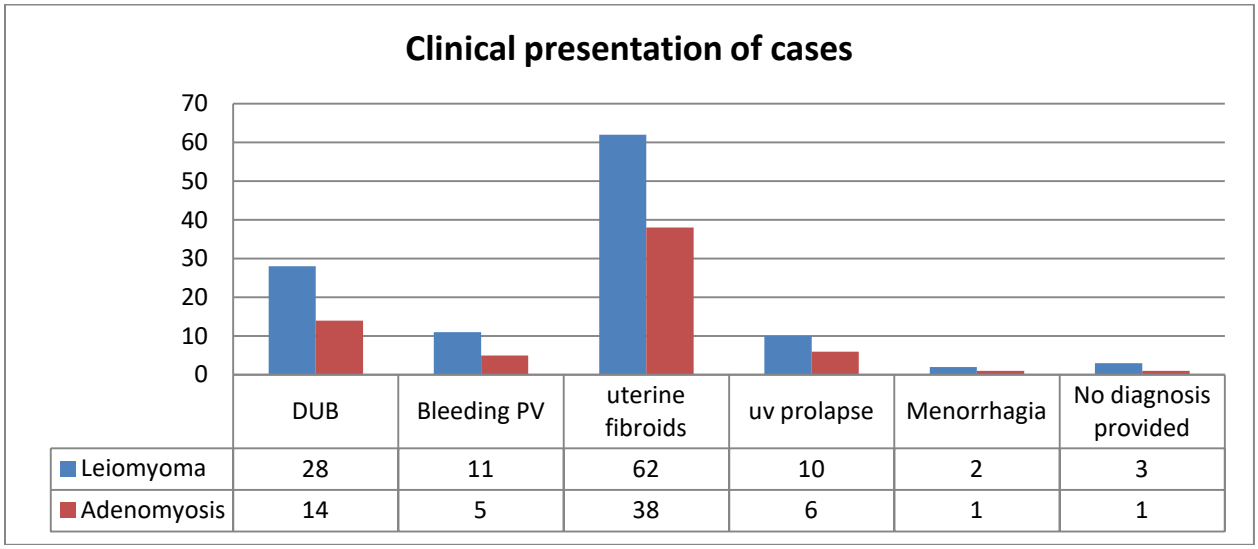


Image 3: Presenting complaints in cases of leiomyoma and adenomyosis according to the Age groups in the study population

In cervix, most cases were inflammatory lesions with chronic nonspecific cervicitis was the most common histopathological finding. Two cases (1.37%) of carcinoma cervix were reported. Both the cases were squamous cell carcinoma (Table 5)

Table 5: Shows the histopathological spectrum of findings of uterine cervix in the study group

Sl. No.	Diagnosis	No. of cases	Percentage (%)
1	Acute on chronic non-specific inflammation	3	2.05
2	CNSC	66	45.21
3	CNSC with Nabothian follicles	59	40.41
4	CNSC with Nabothian follicles with f/o Prolapse	15	10.27
5	CNSC with Nabothian follicles with Squamous Metaplasia	2	1.37
6	CNSC with squamous metaplasia histological f/o polyp	1	0.68
7	Sq. Cell Carcinoma Cervix	2	1.37
TOTAL		**148**	**100.00**

Discussion

Hysterectomy is a surgical procedure to remove the female uterus. The surgery is done to treat a number of chronic painful conditions, infections as well as certain types of cancer. The type and mode of hysterectomy varies depending on the indication for the surgery. Hysterectomy is the most frequently performed major gynaecological surgery throughout the world. It is a successful operation in terms of symptomatic relief and patient satisfaction and provides definitive cure to many diseases affecting uterus as well as adnexae.[5] This study was conducted to analyse the pattern of lesions in hysterectomy specimens in our institution, to correlate the histopathological findings with the clinical indications and to compare our findings with those of other workers.

In the present study abdominal hysterectomy (87.83%) was higher than the vaginal (12.16%) similar to the studies done by Priya Bhide et al (1994)[6] with 54.8% being abdominal and 45.2% being vaginal, Ajmera Sachin K et al (2006)[7] with 54.4% being abdominal and 38.9% vaginal. Whereas in the study done by Gautam Allahbadia et al (1991)[8], the incidence of vaginal (64.67%) hysterectomy was higher than the abdominal (30.33%). Of the 130 abdominal hysterectomies, total abdominal hysterectomy with bilateral salphingo-oophorectomy was the commonest with 105 cases (70.95%), followed by total abdominal hysterectomy in 23 cases (15.54%).

In the Present study, the age ranged from 28-80 years with a mean age of 45.68 years. The youngest patient in the study was 28 years and the oldest was 80 years of age. The comparative analysis based on age group is shown in Table 6.

Table 6: Shows the peak age incidence of Hysterectomy

Sl. No.	Study	Age in years	Percentage (%)
1	Gautam Allahabadia et al 1991[8]	21-30	50.00
2	Ajmera Sachin K et al 2006[6]	41-50	31.64
3	Present study 2020	41-50	43.24

The most common clinical indication for hysterectomy in the Present study was uterine fibroid in 68 cases (45.95%). Similar findings were observed in the Ajmera Sachin K et al[6] series in 170 cases (48.6%) and Stewart and Arti (2006)[9] series in 33 cases (33%).

Table 7: comparisons of myometrial lesions in various studies

STUDY	LEIOMYOMA (%)	ADENOMYOSIS (%)
Jamal and Baqai (2001)[10]	35.7	30
Gazozai et al. (2004)[11]	67	17
Sarfraz and Tariq(2005)[12]	58	39
Abdullah(2006)[13]	34	18.4
Perveen and Tayyab(2008)[14]	68.5	33.3
Ranabhat et al.(2010)[15]	30.30	28
Present study	79.72	52.56

Table 8: comparison of cervical lesions in various studies

Study	Chronic cervicitis (%)	Endocervical polyp(%)	Malignant tumors(%)
Jamal and Baqai(2001)[10]	41.53	-	-
Talukder et al. (2007)[16]	87.80	-	2.44
Rather et al.(2013)[17]	89.39	0.85	0.56
Patil et al. (2015)[18]	77.3	-	1.4
Present study	96.62	0.67	1.35

Image 4: A specimen of uterocervix showing multiple fibroids, few Intramural fibroid and a large subserosal fibroid.

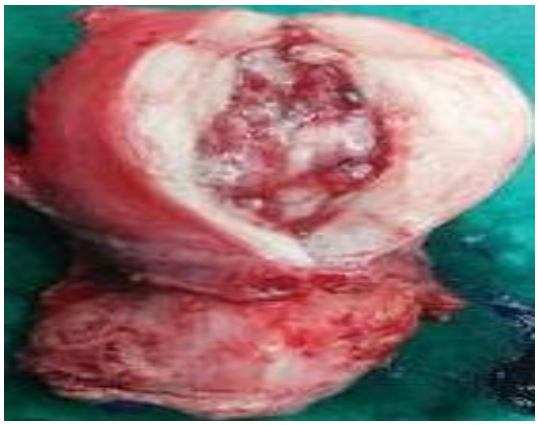
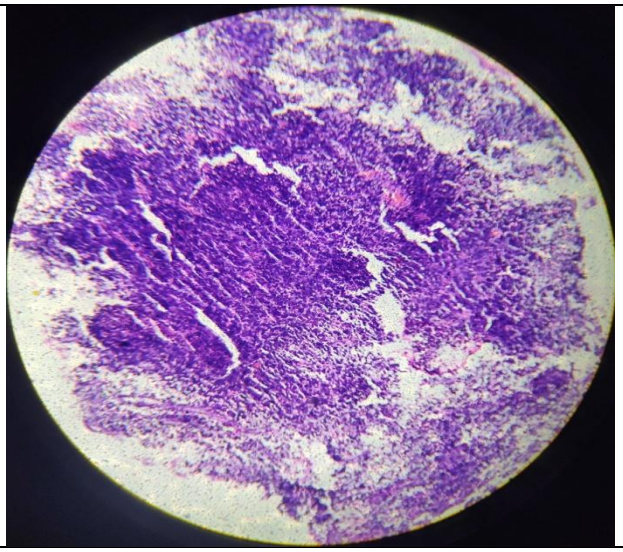
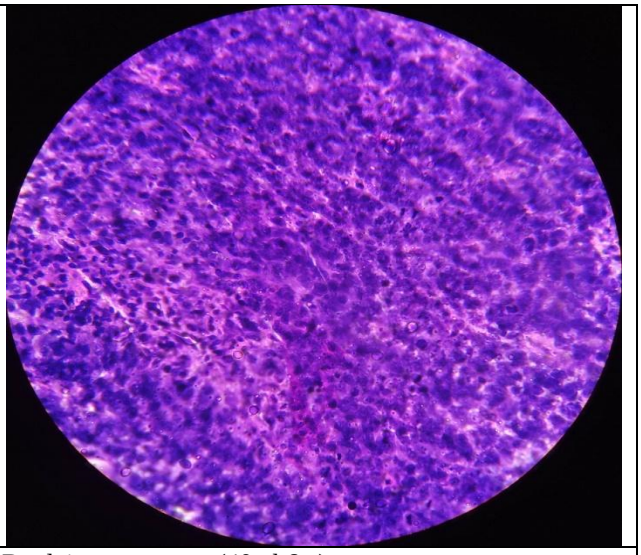


Image 5: A specimen of uterocervix showing endometrial carcinoma.



A – leiomyosarcoma (10x h&e)



B – leiomyosaroma (40x h&e)

Image 6: Section showing leiomyosarcoma of uterus showing sheets of pleomorphic malignant cells showing abundant bizzare mitosis.

Conclusion

Most of the cases which underwent hysterectomy were for symptomatic untreatable benign conditions and few for malignancies. Majority of the cases were histopathologically consistent with clinical diagnosis. Histopathological examination and its correlative study with preoperative clinical diagnosis is very important. Thus, histopathological examination is still the gold standard test to diagnose and rule out malignancy and must be compulsory for all the surgical specimens.

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