

A Retrospective assessment of the histo-morphological diversity of various lesions of the uterus, cervix and adnexa

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Abstract

Aim: To study the histo-morphological diversity of various lesions of the uterus, cervix and adnexa.

Materials and Methods: A Retrospective Histopathological study of 609 cases of nonneoplastic and neoplastic lesions of hysterectomy specimens was conducted in Department of Pathology, over the period from June 2015- May 2017. Hysterectomy specimen with or without unilateral or bilateral adnexa received in the department. The specimens were analyzed in detail macroscopically for various parameters like size, external surface, and consistency and cut sections.

Results: Atrophic changes were seen in 13.46% cases. Endometrial hyperplasia was seen in 26 cases. Among the neoplastic lesions 2.46% cases were endometrial polyps with only 3 cases of malignancy forming 0.49%. Among the histologic types of lesions of myometrium, majority were Leiomyoma (27.59%). Leiomyoma and Adenomyosis were seen in 55 cases (9.04%). Adenomyosis was seen in 22.00%. Chronic cervicitis was seen in 36.07% cases and chronic cystic cervicitis in 6.21% of cases. Nabothian cyst were seen in 124 cases (20.80%). 19.80% cases showed Squamous metaplasia. Out of 188 Ovarian lesions, 167 (88.83%) were non-neoplastic lesions and 21 (11.17%) were neoplastic lesions. Fallopian tube pathology included chronic salpingitis in 2 cases, paratubal cyst in 07 cases. 69.4% of cases show unremarkable fallopian tubes.

Conclusion: The present study provides awareness into the wide range of histopathological patterns of lesions in uterus and cervix in hysterectomy specimens. It aids to appropriate management in the postoperative period.

Keywords: Hysterectomy, cervix, uterus, benign, malignant

Introduction

Uterus, a vital reproductive organ is subjected to many benign and malignant pathologies [1]. The uterine corpus under hormonal influence is, denuded monthly of its endometrial mucosa. The lesions of the uterine corpus and cervix account for most patient visits to gynaecologists [2]. Many treatment are available nowadays including medical and conservative surgical procedures but hysterectomy remains the most preferred method to manage gynaecological disorders [3].

Hysterectomy is the removal of the uterus and it is the most common gynecological procedure performed in the females worldwide, as it is affected by various non-neoplastic and neoplastic conditions during the life time of a woman ^[4]. It should be performed when the risk of preserving the uterus is greater than its removal or when the disabling symptoms for which there is no successful medical treatment ^[5]. This study is entitled to study the histomorphological Diversity of various lesions of the uterus, cervix and adnexa.

Materials and Methods

A Retrospective Histopathological study of 609 cases of nonneoplastic and neoplastic lesions of hysterectomy specimens was conducted in Department of Pathology, over the period from June 2015- May 2017.

Methodology

The materials for this study was obtained from hysterectomy specimen with or without unilateral or bilateral adnexa received in the department. The specimens were analyzed in detail macroscopically for various parameters like size, external surface, and consistency and cut sections.

Tissue were fixed and preserved in formalin, then passed through ascending grade of alcohol and xylene and finally embedded in melted paraffin wax. Then blocks were prepared, single block was made for each section, thin sections of 4 to 5 microns thickness were cut, Slides were be prepared and stained by H & E stain.

The non-neoplastic and neoplastic lesions from representative sections were studied and classified according to Modified World Health Organisation (WHO) classification 2003 and staging is done according to International Federation of Gynaecology and Obstetrics (FIGO) staging.

Results

Table 1: Histological Types of Lesions of Uterus (Endometrium)

	Histologic Type	Number of cases	Percentage
Normal	Proliferative phase	329	54.02%
	Secretory phase	115	18.88%
Non-neoplastic	Atrophy	82	13.46%
	Simple hyperplasia	26	4.28%
	Disordered proliferative endometrium	05	0.82%
	Molar pregnancy	02	0.33%
	Trophoblastic tissue	23	3.78%
	Others	09	1.48%
Benign	Endometrial polyp	15	2.46%
Malignant	Choriocarcinoma	01	0.16%
	Endometrial carcinoma	02	0.33%
	Total	609	100%

Normal Endometrial histology show proliferative phase in 329 cases (54.02%). Atrophic changes were seen in 13.46% cases. Endometrial hyperplasia was seen in 26 cases. Among the neoplastic lesions 2.46% cases were endometrial polyps with only 3 cases of malignancy forming 0.49%.

Table 2: Histological Types of Lesions of Uterus (Myometrium)

	Histologic type	Number of cases	Percentage
normal	Normal	220	36.12%
Non-neoplastic	Adenomyosis	134	22.00%
	Hypertrophy	16	2.63%
	Atrophy	05	0.82%
	Others	08	1.31%
benign	Leiomyoma	168	27.59%
	Leiomyoma and adenomyosis	55	9.04%
malignant	Invasive myometrial carcinoma	03	0.49%
	Total	609	100%

Among the histologic types of lesions of myometrium, majority were Leiomyoma (27.59%). Leiomyoma and Adenomyosis were seen in 55 cases (9.04%). Adenomyosis was seen in 22.00%. Myometrium was involved by 2 cases of endometrial carcinoma and 1 case of choriocarcinoma.

Table 3: Histological Types of Lesions of Cervix

	Histologic Type	Number of cases	Percentage
Non-neoplastic	Erosion	04	0.67%
	Chronic cervicitis	215	36.07%
	Chronic cystic cervicitis	37	6.21%
	Chronic papillary cervicitis	98	16.44%
	Chronic papillary cystic cervicitis	56	9.40%
	Ectocervical hyperplasia	54	9.06%
	Squamous metaplasia	118	19.80%
	Other	07	1.17%
Benign	Leiomyoma	04	0.67%
Premalignant	Cervical intra epithelial neoplasm	02	0.34%
Malignant	Squamous cell carcinoma	01	0.17%
	Total	596	100%

Chronic cervicitis was seen in 36.07% cases and chronic cystic cervicitis in 6.21% of cases. Nabothian cyst were seen in 124 cases (20.80%). 19.80% cases showed Squamous metaplasia. CIN was seen in 2 cases among which 1 was CIN 1 and other was CIN 2. Squamous cell carcinoma was seen in a minority (0.17%) cases.

Table 4: Histological Types of Lesions of Ovaries

	Histologic type	Unilateral	Bilateral	Total	Percentage
		Number of cases	Number of cases		
Normal	Normal	04	22	26	13.83%
Non-neoplastic	Follicular cyst	53	44	97	51.60%
	Corpus luteal cyst	35	05	40	21.28%
	Endometriotic cyst	02	00	02	1.06%
	Dermoid cyst	01	00	01	0.53%
	Others	01	00	01	0.53%
Benign	Serous cystadenoma	10	02	12	6.39%
	Mucinous cystadenoma	04	00	04	2.13%
	Ovarian fibroma	01	00	01	0.53%
Borderline	Mucinous borderline tumor	01	00	01	0.53%
Malignant	Granulosa cell tumor	01	00	01	0.53%
	Serous carcinoma	02	00	02	1.06%
	Total	115	73	188	100%

Out of 188 Ovarian lesions, 167 (88.83%) were non-neoplastic lesions and 21 (11.17%) were neoplastic lesions. Among the total 21 neoplastic lesions, 3 cases were malignant and one case was borderline lesion of ovary. Among non-neoplastic lesions, the follicular cysts (51.60%) are the common cyst followed by corpus luteal cyst (21.28%) predominantly seen in unilateral ovary. Of all the benign tumors, serous cystadenoma are the commonest accounting 12 cases (70.58%) followed by mucinous cystadenoma 4 cases (23.53%) and 1 case of Fibroma present.

Table 5: Histological Types of Lesions of Fallopian Tubes

Histology Type	Unilateral	Bilateral	Total	Percentage
	Number of cases	Number of cases		
Normal	27	87	114	92.68%
Salpingitis	01	01	02	1.63%
Paratubal cyst	04	03	07	5.69%
Total	32	91	123	100%

Fallopian tube pathology included chronic salpingitis in 2 cases, paratubal cyst in 07 cases. 69.4% of cases show unremarkable fallopian tubes.

Discussion

In the present study, 609 cases of nonneoplastic and neoplastic lesions of hysterectomy specimens were studied over a period of 2 years, i.e. from June 2015 to May 2017, in the Department of Pathology.

One of the greatest advances in gynecology was early detection and cure rate of cancer of the uterine cervix that has resulted from the development of cytology and the recognition of carcinoma in situ. In 1943, George N. Papanicolaou (1883-1962) and Herbert Traut (1894-1963) published their seminal monograph entitled 'Diagnosis of Uterine Cancer by the Vaginal Smear' [6].

The uterus is subject to a variety of disorders the most common of which result from endocrine imbalances, inflammation complications of pregnancy and neoplastic proliferation.

Table 6: Comparison of histopathological Diagnosis in Uterus with other Series

Histopathological Diagnosis	Ticku <i>et al.</i> (2017) [7]	Rather <i>et al.</i> (2013) [8]	Present Study
Atrophic endometrium	18.06%	5.44%	13.46%
Endometrial polyp	4.95%	2.43%	2.46%
Endometrial hyperplasia	4.46%	4.4%	4.26%
Disordered endometrium	6.19%	1.14%	0.82%
Leiomyoma & leiomyoma with adenomyosis	20.53%	38.8%	36.63%
Adenomyosis	14.32%	21.91%	22%
Endometrial carcinoma	1%	0.56%	0.33%
Choriocarcinoma	-	-	0.16%
Leiomyosarcoma	-	-	-

As shown in above table, the findings of histopathological Diagnosis in Uterus correlate with various studies by different authors from India and the world. The Incidence of Endometrial Polyp, Leiomyoma, Adenomyosis, Endometrial carcinoma, Choriocarcinoma and Leiomyosarcoma in present study are within parallel ranges of studies by Ticku *et al.* and Rather *et al.* [7, 8].

Table 7: Comparison of Histopathological Diagnosis in Cervix with Other Series

Histopathological Diagnosis	Rather <i>et al.</i> (2013) [8]	Talukder <i>et al.</i> (2007) [9]	Patil <i>et al.</i> (2015) [10]	Present study
Chronic cervicitis	89.39%	87.80%	77.3%	68.12%
Cervical Polyp	0.85%	0.6%	-	-
Cervical Fibroid	-	0.6%	0.58%	0.67%
Cervical Intraepithelial Neoplasia	0.14%	0.3%	2.7%	0.34%
Squamous Cell Carcinoma	0.56%	2.44%	1.4%	0.17%

A comparison of the findings of Histopathological Diagnosis in Cervix shows that CIN found in 0.34% cases in the present study which is equivalent to the study by Talukder *et al.* and Rather *et al.* Cervical Fibroid, Cervical polyp, Chronic non-specific cervicitis and SCC Cervix are also parallel ranges [8, 9].

Table 8: Comparison of Histopathological Diagnosis in ovaries with others series

Histopathological Diagnosis	Deepa Hatwal <i>et al.</i> (2014) [11]	Kanthikar <i>et al.</i> (2014) [12]	Saima Perveen <i>et al.</i> (2011) [13]	Present Study
Follicular Cyst	36.31%	38.62%	23.4%	51.60%
Corpus Luteal Cyst	24.92%	10.34%	10%	21.28%
Serous Cystadenoma	18.46%	17.24%	-	6.39%
Mucinous Cystadenoma	2.46%	4.83%	1.2%	2.13%
Borderline and Malignant Tumour	3.38%	10.34%	1.2%	1.23%

In the Present Study, Ovarian tumor was observed in 11.17% of cases. Among them, Serous Cystadenoma was 6.39% and Mucinous cystadenoma 2.13% of cases which are nearer to Deepa Hatwal *et al.* and Kanthikar *et al.* studies [11-13]. In present study maximum cases are of Follicular cyst, 51.60% cases which are closed to other studies.

Table 9: Comparison of Histopathological Diagnosis in Fallopian Tubes

Histopathological Diagnosis	Manjunatha <i>et al.</i> (2016) [14]	Bhagwan in <i>et al.</i> (2004) [15]	Present study
Normal	90.18%	66.67%	92.68%
Salpingitis	0.03%	10.75%	1.63%
Paratubal cyst	4.2%	3.76%	5.69%

Most of Fallopian tubes lesions are Normal in 92.68% cases in our study similar to Manjunath *et al.* study. Rests of cases are non-malignant including 1.63% cases of chronic salpingitis and 5.69% cases of Paratubal cyst which also close to study of Manjunatha *et al.* [14].

Conclusion

The present study provides awareness into the wide range of histopathological patterns of lesions in uterus and cervix in hysterectomy specimens. It aids to appropriate management in the postoperative period. Hence, it is should be mandatory that every hysterectomy specimen, even if it grossly appears to be normal, should be subjected to detailed histopathological examination to confirm various pathological lesions, its clinical correlation and treatment modality.

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