



■ Original Research Article

## Clinicopathological Assessment of Hysterectomy Specimens for Gynaecological Conditions In Maiduguri: A 10 Year Retrospective Review

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### Abstract

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**Background:** Hysterectomy is the most performed gynaecological surgery throughout the world. Hysterectomies are done for definitive treatment of multiple pathologies of female reproductive organs like fibroids, uterine prolapse, abnormal uterine bleeding, adenomyosis, endometriosis and malignancy of female reproductive organs. A variety of conditions in gynaecological practice like chronic pelvic pain and dysfunctional uterine bleeding require removal of a uterus that may show no gross or microscopic pathology when examined by the pathologist. Clinico-pathological audit of hysterectomies can help us define and improve our standards of diagnosis and justification of the hysterectomies performed. **Objective:** To compare the accuracy of various clinical indications and histopathological diagnoses from hysterectomy specimens in Maiduguri. **Materials and methods:** A retrospective study of all hysterectomy specimens received in the Department of Pathology, University of Maiduguri Teaching Hospital, Maiduguri over a period of 10 years. **Results:** Three hundred and ninety-six (396) hysterectomy specimens were analyzed. Of these, 299 (76%) were received from UMTH. Specimen of hysterectomies were from patients ranging from 20 years to 90 years. Most common age group was 40-49 years with a mean age of  $47.2 \pm 9.7$  years. Among hysterectomies performed, majority were done through the abdominal route 375 (94.7%). The most common type of hysterectomy performed was total abdominal hysterectomy with bilateral salpingo-oophorectomy (TAH BSO). Heavy menstrual bleeding seen in 177 (49.7%) of cases was the commonest complaint. The most common benign indication for hysterectomy was uterine fibroid (197 cases) while ovarian cancer (31 cases) was the most common malignant indication. Of the 197 cases of uterine fibroid that was diagnosed preoperatively, histopathological diagnosis of leiomyoma was made in 165 (83.7%) of cases while out of 31 cases of ovarian cancer, 29 (93.5%) was confirmed histologically. **Conclusion:** Hysterectomy in this study was commonly done via laparotomy with fibroid as the commonest benign condition while ovarian cancer is the commonest malignant indication, and these were histologically confirmed.

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## Introduction

The uterus is a vital reproductive and hormone responsive organ which can be affected by many non-neoplastic and neoplastic conditions.<sup>1</sup> Many treatment options are available including medical and conservative surgical procedures but hysterectomy remains the most preferred method to manage gynaecological disorders like uterine fibroid, adenomyosis and malignant conditions involving the genital tract.<sup>1,2</sup> Hysterectomy is the removal of the uterus which could be through abdominal, vaginal or laparoscopic route.<sup>3</sup>

Hysterectomy is the most commonly performed gynaecological surgery throughout the world.<sup>3-5</sup> In the United States over one third of women have undergone a hysterectomy by age of 60.<sup>5</sup> The lifetime risk of hysterectomies ranges from 20% to 35%.<sup>6</sup> Hysterectomy for benign gynaecological conditions account for 10.7% of all major gynaecological operations.<sup>5</sup> Hysterectomy rate varies from place to place depending upon patient and clinician related factors.<sup>2,7</sup> It is performed in 560/100,000 women per year in the US and 414/100,000 women per year in Finland.<sup>2</sup> Reports on the incidence of hysterectomies ranges from 14.3% to 22.7% however, a lower value has been reported as 1.5% in Nigeria.<sup>8</sup>

The procedure is not well embraced in developing countries, in particular Nigeria due to socio-cultural reasons where menstruation is synonymous with femininity and is regarded as a means by which the body rids itself of “bad blood”.<sup>8,9</sup> Thus, the clinical indications hysterectomy should be justifiable.<sup>8,9</sup> It should be performed when the risk of preserving the uterus is greater than its removal or when there is disabling symptoms for which there is no successful medical treatment.<sup>10</sup>

Hysterectomies are done for definitive treatment of multiple pathologies of female reproductive organs like fibroids, uterine prolapse, abnormal uterine bleeding due to endometrial hyperplasia with atypia, adenomyosis, endometriosis and malignancy of female reproductive organs.<sup>2,4,9</sup> Other less common indications are endometrial hyperplasia, premalignant lesions of the female reproductive organs, obstetric emergencies like uterine rupture and post-partum haemorrhage. It may or may not be associated with unilateral or bilateral salpingo-oophorectomy.<sup>4</sup>

Although hysterectomy is a definitive treatment for many benign and malignant gynaecological diseases, but it is not risk free. It is

associated with risk of iatrogenic premature menopause, surgical and anaesthetic complications like fistula involving ureter, bladder and gut, and chronic abdominal pain due to adhesions formation.<sup>11</sup> A variety of conditions in gynaecological practice require removal of a uterus that may show no gross or microscopic pathology when examined by the pathologist. Removal of a normal uterus may be indicated and permitted in the treatment of ovarian, fallopian tube and vagina cancer, pelvic inflammatory disease, endometriosis, DUB, pelvic organ prolapse, pelvic pain and pelvic tuberculosis. The diagnostic value of histopathologic examination is well explained in patients with genital cancer where adjuvant treatment is dependent upon grade and extent of invasion of the disease. Similarly, diagnosis of adenomyosis is only established by histopathological examination, while DUB is a diagnosis of exclusion. Conversely, many patients may be suspected of having a malignancy on pre-operative assessment e.g., those with post-menopausal bleeding and histopathological examination may aid to rule out this suspicion.<sup>2,11</sup> Modupeola et. al., in their study reported that the clinical indication for hysterectomy and histopathological outcome are comparable in over 90% of cases.<sup>8</sup> Clinico-pathological audit of hysterectomies can help us define and improve our standards of diagnosis and justification of the hysterectomies performed.<sup>6</sup>

Literatures on hysterectomy from developed countries are abundant however similar studies comparing the clinical indications and pathological findings are scanty especially in developing countries like ours. The purpose of this study is to compare the accuracy of various clinical indications and histopathological diagnoses from hysterectomy specimens thus, emphasizing the need for subjecting each specimen for histopathological examination.

## Methodology

The design of this study was a retrospective study. All hysterectomy specimens sent to the Department of Pathology, University of Maiduguri Teaching Hospital, Maiduguri over a period of 10 years (2010-2019) were studied. Specimens were received from in-patients in the teaching hospital, general, private and federal medical centers within and bordering Maiduguri. The hysterectomy specimens were received in 10% formalin which were properly labeled, numbered, and processed in paraffin wax. This type of study falls under exemption for ethical clearance.

The information pertaining to the patients were retrieved from the bench book and request forms. The data was extracted by the corresponding author using a predesigned data collection tool. All patients undergoing hysterectomy for gynaecological conditions irrespective of the route and type of surgery were included in the study. Excluded from the study were obstetrical hysterectomies and patients with incomplete clinical details on the histopathologic result forms and bench book. There were 592 hysterectomy specimens over the study period however, only 461 pathologic results were retrieved giving a retrieval rate of 78%. Out of the results that were retrieved, only 396 had complete information. Information on socio-demographic characteristic, parity, institution, presenting symptoms, indications for surgery, route of hysterectomy, type of hysterectomy, histopathology report were collected and entered a proforma.

Data collected were analyzed using Statistical Package for Social Sciences (SPSS) version 25 (IBM SPSS Statistics). All data were presented as absolute values, frequencies and percentages were calculated for categorical variables. Figures and simple percentages presented on tables and graphs were used to depict the findings.

**Results**

There were 592 hysterectomy specimens of which 461 pathologic results were retrieved. Out of the retrieved results, 396 histopathologic results had complete information and thus formed the basis of analysis. Specimen of hysterectomies were from patients ranging from 20 years to 90 years. Most common age group was 40-49 years with a mean age of 47.2 ± 9.7 years. Most of the cases 381 (96.2%) were parous women. Majority were with para 5 and above (Table 1).

Among hysterectomies, majority were done through abdominal route 375 (94.7%) and 21 (5.3%) cases were done through vaginal route (Figure 1). The most common type of hysterectomy was total abdominal hysterectomy with bilateral salpingo-oophorectomy (TAH BSO) comprising of 308 (77.8%) followed by total abdominal hysterectomy (TAH) comprising of 60 (15.2%) cases. Least number of cases were of subtotal hysterectomy (STH) 2 (0.5%) (Table 2).

The commonest complaint was heavy menstrual bleeding in 177 (44.7%) cases followed by abdominal mass in 127 (32.1%) cases, abdominal pain in 106 (26.8%) cases, something coming out of vagina

in 46 (11.6%). The least complaints were of post-menopausal bleeding in 17 (4.3%) and post coital bleeding 14 (3.5%) cases respectively (Figure 2).

Table 1. Demographic variables of women who had hysterectomy.

Variables	Frequency (n)	Percentage (%)
Age (years)		
20-29	8	2
30-39	39	9.8
40-49	223	56.3
≥ 50	126	31.8
Total	396	100.0
Parity		
0	15	3.8
1-2	49	12.4
3-4	118	29.8
≥5	214	54.0
Total	396	100.0
Institution		
UMTH	299	75.5
Others	97	24.5
Total	396	100.0

Others are SSHM, FMC Nguru, USUMH, Yobe state teaching hospital, UMTH, university of Maiduguri teaching hospital; SSHM, state specialist hospital Maiduguri; FMC, federal medical center; USUMH, Umoru Shehu ultramodern hospital Maiduguri.

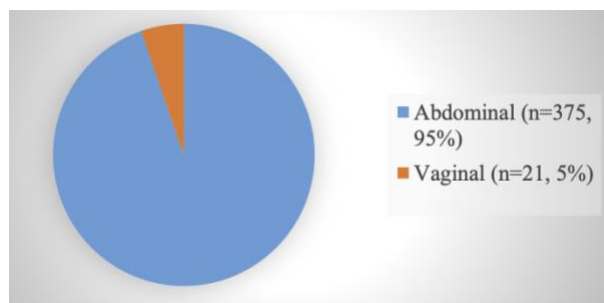


Figure 1. Route

Table 2. Type of hysterectomy

Variables	Frequency (n)	Percentage (%)
TAH with BSO	308	77.8
TAH only	60	15.2
VAH with BSO	18	4.5
TAH with USO	5	1.3
VAH only	3	0.8
STH	2	0.5
Total	396	100.0

BSO, Bilateral salpingo-oophorectomy; STH, Subtotal hysterectomy; TAH, Total abdominal hysterectomy; USO, Unilateral salpingo-oophorectomy; VAH, vaginal hysterectomy

The most common indication of hysterectomy was uterine fibroid in 197 (49.7%) cases followed by utero vaginal prolapse in 47 (11.9%) cases, ovarian cancer in 31 (7.8%) cases, dysfunctional uterine bleeding in 31 (7.8%) cases, adenomyosis in 28 (7.1%) cases, chronic pelvic pain in 24 (6.1%), HPV associated changes (CIN) in 16 (4.0%), endometrial cancer in 15 (3.8%), cervical cancer in 12 (3%) (Table 3).

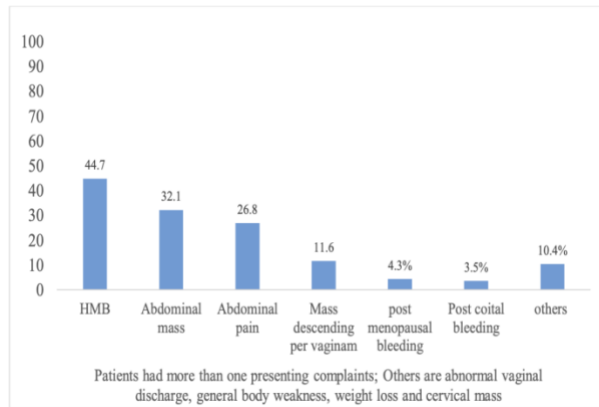


Figure 2. Presenting complaints

Table 3. Indications of hysterectomy

Variables	Frequency (n)	Percentage (%)
Uterine fibroid	197	49.7
UV prolapse	47	11.9
Ovarian cancer	31	7.8
DUB	31	7.8
Adenomyosis	28	7.1
Chronic pelvic pain	24	6.1
HPV associated changes	16	4.0
Endometrial cancer	15	3.8
Cervical cancer	12	3.0
Endometrial hyperplasia	11	2.8
Endometrial polyp	3	0.8
Molar gestation with uncontrollable bleeding	1	0.3
Others	14	3.5

Patients had more than one clinical indication. Others are chronic PID, cervical polyp, pyometria and chronic cervicitis with completed family size.

UV, uterovaginal; DUB, dysfunctional uterine bleeding; HPV, human papilloma virus. The ratio between benign and malignant lesions is 6:1.

In the endometrium, majority of the cases were of normal histology 343 (86.6%). In terms of pathology, simple hyperplasia accounted for 16 (4%), endometrial polyp in 8 (2%), endometritis in 8 (2%), complex hyperplasia in 6 (1.5%) and endometrial carcinoma in 6 (1.5%) of cases (Table 4). The ratio

between benign and malignant lesions was 5:1 with benign lesions occurring more amongst women from 40-49 years while malignant lesions were more from 50 years and above.

Table 4. Histopathological findings in the endometrium

Variables	Frequency (n)	Percentage (%)
Normal histology	343	86.6
Simple hyperplasia	16	4.0
Endometrial polyp	8	2.0
Endometritis	8	2.0
Complex hyperplasia	6	1.5
Endometrial carcinoma	6	1.5
Others	9	2.3
Total	396	100.0

Others are atrophic endometrium with polyps, tuberculous endometritis with calcifications.

Table 5. Histopathological findings in the myometrium

Variables	Frequency (n)	Percentage (%)
Leiomyoma	190	48.0
Unremarkable	147	37.1
Adenomyosis	40	10.1
Leiomyoma + adenomyosis	16	4.0
Others	3	0.8
Total	396	100.0

Others are chronic myometritis, myometrial cyst and lipoleiomyoma.

Table 6. Histopathological findings in the cervix

Variables	Frequency (n)	Percentage (%)
Benign		
Normal	280	70.7
Chronic nonspecific cervicitis	50	12.6
Nabothian cyst	21	5.3
CIN I	17	4.3
Chronic papillary endocervicitis	3	0.8
CIN II	2	0.5
Not surgically removed or reported	2	0.5
Leiomyoma	1	0.3
Cervical polyp	1	0.3
CIN III	1	0.3
Malignant		
Squamous cell carcinoma	7	1.8
Adenocarcinoma	1	0.3
Metastasis	1	0.3
Others	9	2.3
Total	396	100.0

Others are acute on chronic cervicitis, cervical ectopion and inflammatory endocervical polyp. CIN, cervical intraepithelial neoplasia

The most common histopathological abnormality in the myometrium was leiomyoma followed by adenomyosis. Leiomyoma in 190 (48.0%), followed by isolated adenomyosis was seen in myometrium of 40 (10.1%) hysterectomy specimens, whereas both

were present together in 40 (4%) specimens. In 147 (37.1%) myometria, the findings were unremarkable (Table 5).

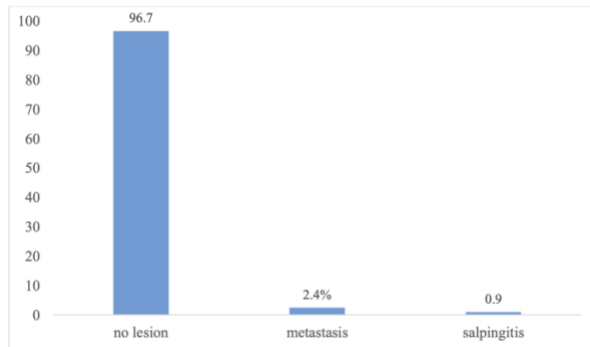


Figure 3. Histopathological findings in the fallopian tubes

Maximum number of cases showed chronic nonspecific cervicitis as the main cervical pathology 50 (12.6%). Other less frequent cervical pathologies encountered were CIN 1 17(4.3%), squamous cell carcinoma 7 (1.8%), chronic papillary endocervicitis 3 (0.8%). No remarkable pathology was found in 231 (58.3%) (Table 6).

Table 7. Histopathological findings in the ovary

Variables	Frequency (n)	Percentage (%)
Unremarkable	288	87.3
Serous cystadenoma	10	3.0
Mature teratoma	9	2.7
Serous adenocarcinoma	8	2.4
Granulosa cell tumour	6	1.8
Mucinous adenoma	3	0.9
Brenner tumour	3	0.9
Mucinous adenocarcinoma	1	0.3
Fibroma	1	0.3
Thecoma	1	0.3
Total	330	100.0

In this study, majority of the cases revealed no pathological lesion in the fallopian tubes. The only significant lesions were 8 (2.4%) cases of metastasis and 3 (0.8%) cases of salpingitis (Figure 3). In the ovaries, majority of the cases were unremarkable 288 (87.3%) as shown in Table 7.

In this study, uterine fibroid which was the most common indication for hysterectomy was confirmed in 165 (83.7%) of cases. Adenomyosis was suspected in 28 cases while it was confirmed in 13 (46.4%) cases histologically. Among 31 cases of DUB, 8 cases were diagnosed on histopathology report as adenomyosis. Out of the 28 cases of adenomyosis, 13 cases came out to be leiomyoma. Among 15 cases of endometrial carcinoma, 4 cases were diagnosed on

histopathology report as endometrial hyperplasia. Out of the 12 cases of cervical cancer, 5 cases were diagnosed on histopathology report as chronic nonspecific cervicitis (Table 8).

Table 8. Comparison of clinical diagnosis with histopathological diagnosis

Preoperative diagnosis	Histopathologic report (n, %)
Uterine fibroid (n=197)	Leiomyoma (165, 84.6%) Leiomyoma + adenomyosis (18, 9.1%) Adenomyosis (12, 6.1%) Myometrial cyst (1, 0.5%) Lipoleiomyoma (1, 0.5%)
Adenomyosis (n=28)	Adenomyosis (13, 46.4%) Leiomyoma (13, 46.4%) Leiomyoma + adenomyosis (2, 7.2%)
DUB (n=31)	Adenomyosis (8, 25.8%) Leiomyoma (7, 22.6%) Leiomyoma + adenomyosis (2, 6.5%) Unremarkable (14, 45.1%)
Endometrial hyperplasia (n=11)	Endometrial hyperplasia (3, 27.3%) Endometrial carcinoma (2, 18.2%) Unremarkable (6, 54.5%)
HPV associated changes (n=16)	CIN (12, 75%) Chronic cervicitis (4, 25%)
Ovarian cancer (n=31)	Ovarian carcinoma (29, 93.5%) Unremarkable (2, 6.5%)
Endometrial cancer (n=15)	Endometrial carcinoma (6, 40%) Endometrial hyperplasia (5, 33.3%) Endometrial polyp (3, 20%) Tuberculous endometritis (1, 6.7%)
Cervical cancer (n=12)	Cervical carcinoma (7, 58.3%) Chronic cervicitis (5, 41.7%)

CIN, cervical intraepithelial neoplasia; DUB, dysfunctional uterine bleeding; HPV, human papilloma virus

### Discussion

The most common indication for hysterectomy in this study was uterine fibroid followed by uterovaginal prolapse. This was the findings in similar studies from other centers.<sup>5,12-15</sup> However, Onyeabochukwu et al. in Owerri reported uterovaginal prolapse as the most common indication followed by uterine fibroid.<sup>16</sup> This could be due to the differences in the ages as most cases of UV prolapse was seen in the younger age groups in this our study and non-surgical methods was the preferred option of treatment. Other indications include DUB, adenomyosis and chronic pelvic pain. The same trend was reported by Rabiu et al. in Kano.<sup>17</sup> This same trend could be attributed to the same patient characteristics and similar region compared to our study. There was also an increasing trend for hysterectomy for HPV associated changes (cervical dysplasia) in this study which was in concordance with the findings of Oseki et al.<sup>18</sup> This could be explained by increase in awareness and uptake of cervical screening program in this center. It suffices to note that hysterectomy for HPV associated changes is an over

treatment and not guided by evidence.<sup>5</sup> Endometrial hyperplasia and endometrial polyps were the least common benign indication for hysterectomy in this study. This could be due to alternative mode of treatment which include medical therapy and less radical surgery like polypectomy. The most common malignant indication was ovarian cancer which was in keeping with findings from Niger Delta<sup>19</sup> and Southwestern Nigeria.<sup>12</sup> Other less common malignant indications in this study were endometrial and cervical cancers. The ratio of benign to malignant condition is 1:6 in this study which was comparable to 1:5 in Zaria.<sup>15</sup>

Histopathological analysis agreed with the preoperative diagnosis in majority of the cases. Comparison between histological diagnosis and clinical diagnosis of uterine fibroid was 84.6%, the remainder which consisted of some other incidental findings. This findings correlated with studies done elsewhere.<sup>20,21</sup> In a retrospective study done in India to assess the clinicopathological correlation in a rural setting involving 368 hysterectomy specimens, authors reported correlation of 84.4% for benign conditions.<sup>22</sup> In another retrospective descriptive study at two teaching hospitals in Rwanda, a total of 299 uterine specimens underwent histopathological assessment post hysterectomy; overall, 83% of the preoperative clinical diagnosis were confirmed by histology.<sup>23</sup>

In this study, hysterectomy for UV prolapse was the second most common indication accounting for 11.9%. UV prolapse though a clinical diagnosis was also subjected to histological analysis and findings were in keeping with prolapse in 100% of cases. Most of the findings were unremarkable which was in keeping with findings reported by Awale et al, Fatima et al and Ajaz et al also reported 100% clinicopathological comparison of UV prolapse in their series.<sup>24-26</sup> DUB is a diagnosis of exclusion. Cases diagnosed as DUB were found to show some pathology, the commonest being uterine leiomyoma and adenomyosis. Similar results were reported by Shergill SK and Sawke et al, where adenomyosis, leiomyoma and polyps were found on histopathology of DUB cases.<sup>27,28</sup> The confirmatory rate of adenomyosis in this study was quite low (46.4%). Similar observation was also reported by Siddegowda et al.<sup>29</sup> The lower confirmatory rate in this study could be due to lack of necessary imaging modality and the skills to make the diagnosis preoperatively. CIN a pre-neoplastic disease was in keeping with 75% of cases which concur with findings reported by Modupeola et al.<sup>8</sup> This could be explained by the fact that most

women with CIN were identified from prior cervical smear cytology, thus a high degree of correlation were recorded.

Ovarian cancer which was the most common malignant condition in this study had a high confirmatory rate. Similar trend was also reported by Ajaz et al.<sup>26</sup> This high confirmatory rate could be due to the routine use of ultrasonography which is readily available in this center for the preoperative diagnosis of ovarian tumour. Cervical cancer and endometrial cancer were missed in half of the cases in this study. This was in sharp contrast to study reported by Ajaz et al and Poonam et al were all the cases were confirmed correctly.<sup>26,30</sup>

Age and parity are factors that are usually considered before performing a hysterectomy. The most common age group in this study was 40-49 years. Similar age group was seen in hysterectomy cases studied by Modupeola et al and Adelusola et al in Nigeria.<sup>8,31</sup> The average parity in this study was 4 with a range of 0-13. Similar findings were reported by Orji et al.<sup>32</sup>

This study revealed that for the duration under review, majority of hysterectomies were carried out via the abdominal route, while the vaginal route constituted only 5.3%. Similar findings were also reported by Hadiza et al and Abah et al though with a higher rate of 22.4% and 15.2% respectively.<sup>13,33</sup> Similar rates of 3% and 7.9% for vaginal route were reported by Afolabi et al and Daru et al.<sup>15,34</sup> The most common indication for vaginal hysterectomy in this study was uterovaginal prolapse which is in keeping with studies done elsewhere.<sup>12,13,34,35</sup> However, most of the specimen received from outside UMTTH for UV prolapse were performed by abdominal approach. This could be because doctors outside are not too proficient in performing vaginal hysterectomy. In this study, the ratio of abdominal hysterectomy to vaginal hysterectomy was 18:1 which is comparable to that seen in Zaria<sup>15</sup> but in sharp contrast to that reported by Hadiza et al of 5.6:1.<sup>13</sup> TAH BSO was the most common type of abdominal hysterectomy in this study. Similar observations were made by Jandial et al, Gousia et al and Patil et al.<sup>36-38</sup>

The most common clinical presentation in this study was heavy menstrual bleeding. This was also observed by Karthikeyan et al and Saima et al.<sup>11,38</sup> Other clinical presentations were abdominal mass and abdominal pain which was also in keeping with findings of other studies.<sup>7,8,39,40</sup> This could be explained by the fact the uterine fibroid, the most common indication for hysterectomy usually present with abnormal menstrual bleeding and abdominal

mass with or without abdominal pain. Something coming out from the vagina was seen in 11.6% of cases in this study. Similar finding was reported in Niger Delta.<sup>19</sup>

Endometrium remains the most sensitive indication of ovarian function. In this, functional endometrial changes were most common and accounted for 86.6%. Similar findings were reported by Gupta et al.<sup>41</sup> Comparative studies revealed functional endometrial in 53.8% of patients which was lower compared to that obtained in this study. In terms of benign pathology, simple hyperplasia accounted for 4% in this study which was in keeping with findings reported by Gupta et al.<sup>41</sup> Other benign conditions reported in this study were endometrial polyp, endometritis, and complex hyperplasia. Similar findings were also reported in other studies.<sup>42-45</sup> Endometrial carcinoma which is a malignant condition was seen in 1.5% of cases which was in keeping with finding of Jandial et al.<sup>36</sup> The ratio of benign to malignant lesion is 5:1 in this study with benign lesions occurring more amongst women from 40-49 years while malignant lesions were more from 50 years and above. Similar findings were also reported by Jandial et al.<sup>36</sup>

In the myometrium, 37.1% of cases were unremarkable which concur with findings reported by Poonam et al.<sup>30</sup> This finding was not in keeping with that of Ajaz et al where majority of the cases showed normal histology.<sup>26</sup> Leiomyoma was the most common histopathological lesion followed by adenomyosis in this study. Adenomyosis coexisting with leiomyoma was detected in 4.0% of cases. Similar findings were also reported in other studies.<sup>20,26,46</sup> However, Bosco et al in their series reported adenomyosis to be the most common finding followed by leiomyoma.<sup>47</sup> Other findings observed in this study were chronic myometritis, myometrial cyst and lipoleiomyoma.

Chronic cervicitis is an extremely common condition in adult females at least at microscopic level. Chronic cervicitis was detected in 12.6% of cases. It was the most common histological finding in the cervix in this study. Similar findings were also reported in other studies.<sup>20,48,49</sup> Nabothian cyst which was the second most common finding in this study was seen in 12.6% of cases which concur with findings reported by Gupta et al.<sup>41</sup> Cervical intraepithelial neoplasia was detected in 20 cases. Seventeen (4.3%) of the cases were low grade while 0.8% were high-grade giving a low grade to high grade ratio of 5:1. Similar ratio was also reported by Poonam et al and Zehra et al in their series.<sup>30,46</sup> Other benign findings in

this study were leiomyoma and cervical polyp. Similar trend was also reported by Verma et al.<sup>50</sup> The most common malignant lesion in the cervix was squamous cell carcinoma followed by adenocarcinoma and metastatic cancer. Similar findings were also reported by Modupeola et al.<sup>8</sup>

In this study, significant findings in the fallopian tubes were metastatic disease and salpingitis. Ajaz et al found salpingitis, hydrosalpinx and endometriosis as the only significant findings in the fallopian tube while Bosco et al found salpingitis as the only significant findings in their series.<sup>26,47</sup> In the ovary, majority of the findings were unremarkable which concur with findings reported by Ajaz et al.<sup>26</sup> The most common benign pathology in this study was serous cystadenoma. Similar findings were also reported by Medhi et al.<sup>45</sup> The most common malignant ovarian tumour in this study was serous adenocarcinoma. Sivapragasam et al in their series also found serous adenocarcinoma to be the most common malignant condition of the ovary.<sup>49</sup>

## Conclusion

A wide range of lesions was encountered when hysterectomy specimens were subjected to histopathological examination. The most common benign indication for hysterectomy was uterine fibroid while ovarian cancer was the most common malignant indication. Though the histopathological analysis correlated well with the clinical diagnoses in most of the cases, quite a few lesions were also encountered as pure incidental findings. Hence, it is recommended that every hysterectomy specimen, even if it grossly appears to be normal, should be subjected to detailed histopathological examination so as to ensure a better postoperative management.

## Limitations

Being a retrospective study, all the case files could not be retrieved and as such the data collected might suffer from case ascertainment bias. Information that could help in analyzing the indications for hysterectomy and development complications could not be obtained, as this is only possible at follow-up.

Support – none

Conflicts of interest – none

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