Uterine Prolapse: Should Hysterectomy Specimens be Subjected for Histopathological Examination?

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Context: Uterine prolapse accounts for one of the common gynecological problems in India. The excised uterus is not expected to have any pathological finding other than atrophic endometrium and may be an ulcer because of the prolapse. Aims: The aim of this study is to assess the hysterectomy specimen for unsuspected pathology.

Subjects and Methods: The study is done over two and half years at a tertiary care hospital. Hysterectomy specimens done with a clinical indication of prolapse were included in the study. Histopathological examination done, findings noted, and data analyzed. Statistical Analysis Used: Descriptive analysis was used in this study.

Results: Of the total hysterectomy specimens, 55 (6%) were done for uterovaginal prolapse. Patients age ranged from 32 to 78 years; mean 51.1 ± 11.9 years. Majority (46; 83.6%) of the patients were above 40 years of age, whereas only (9; 16.4%) were <40 years of age (P < 0.0001) Vaginal hysterectomy was done in most 38 (69.1%) cases as compared to abdominal hysterectomy in 17 (30.9%) cases (P < 0.001). Adnexae were removed in only 3 (5.5%) cases as compared to 52 (94.5%) cases, in which adnexae were preserved (P < 0.001). Chronic cervicitis was seen in 100% of cases. Majority (18:32.7%) of the endometrium was in atrophic phase, secretory in 8 (14.5%), cystic regressive hyperplasia and chronic endometritis in 4 (7.2%) each. Myometrium was unremarkable in 43 (94.5%) cases, whereas focal adenomyosis in 12 (21%) cases. All the adnexa received were histologically unremarkable. Conclusions: Grossly unremarkable specimens can have unsuspected histopathological lesion which could be potential premalignant or malignant lesions. Therefore, all hysterectomy specimens should be subjected to the histopathological examination for accurate diagnosis and proper categorization of lesions.

Keywords: Histopathological examination, hysterectomy, unsuspected lesion, uterine prolapse

INTRODUCTION

Uterine prolapse is the herniation of the uterus into or beyond the vagina as a result of failure of the ligamentous and fascial supports.[1] It accounts for one of the common gynecological problems in India[2] and also a common indications for hysterectomy in middle- and old-aged women. The global prevalence is in the range of 2%–20%,[3,4] whereas the scene is similar in India with range of about 15%–20%.[5,6]

The excised uterus is not expected to have any pathological finding other than atrophic endometrium and may be an ulcer because of the prolapse. However, the occasional presence of unsuspected lesions can be diagnosed only on the histopathological examination.[7,8]

SUBJECTS AND METHODS

The study is a descriptive study assessing the gross and histopathological findings in consecutive specimens.

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of hysterectomy done with the clinical indication of prolapse. The specimens were received in the Department of Pathology of a tertiary care hospital over two and half years. After the specimens were received in the laboratory, detailed history was noted, and consent was taken. Gross examination of the specimen was done, findings noted, and excess blood if present was thoroughly washed. Thereafter, the specimen was kept for fixation in 10% formalin saline. After adequate fixation, the specimen was reexamined grossly, findings noted, and sections taken. One section each was taken from the ectocervix, endocervix, endometrium, endomyometrial junction, myometrium, respectively. From each ovary, one section was taken while three sections each from the fallopian tube. Additional sectional were taken in case if any grossly visible pathology. The sections were processed in Leica Histopathology Processor, paraffin blocks were made and sections cut. Slides were subjected to staining by Hematoxylin and Eosin stain. Special stains were used wherever required. Histopathological findings were noted and data were analyzed.

**RESULTS**

Of the total 915 consecutive hysterectomies received over two and half years, only 55 (6%) hysterectomies were done for uterovaginal prolapse.

The age of the patients ranged from 32 to 78 years; mean age 51.1 ± 11.9 years. Majority (46; 83.6%) of patients were above 40 years of age, whereas only 9; 16.4% of patients were <40 years of age, and this difference was statistically significant (P < 0.0001). None of the patients was nulliparous and majority were grand multiparous. Nine patients who were <40 years of age were multigravida with the previous vaginal deliveries indicating grand multiparity as a contributory factor for prolapse along with injury sustained during childbirth, inadequate postnatal exercises, and congenital weakness of pelvic floor. Vaginal hysterectomy was done in most (38; 69.1%) cases as compared to abdominal hysterectomy in 17 (30.9%) cases; this was statistically significant (P < 0.001).

Adnexa were removed in only 3 (5.5%) cases as compared to 52 (94.5%) cases, in which adnexae were preserved, and this was statistically significant (P < 0.001). The age-wise distribution of route of hysterectomy is given in Table 1.

Symptom of postmenopausal bleeding in the form of spotting due to 3rd degree prolapse was seen in 3.6% (2/55) while rest had no other symptom.

The endometrium was unremarkable in 89% of cases as shown in Table 2. Myometrium was unremarkable in 43 (79%) cases. There was focal adenomyosis in 12 (21%) cases. All the adnexae received were histologically unremarkable.

Uterus obtained during hysterectomy for uterovaginal prolapse is considered disease-free organ and any significant histopathological finding is not anticipated. Majority of the histopathological findings were of benign nature requiring no further treatment. However, there were cases of cystic endometrial hyperplasia which can transform into premalignant lesion and has the potential for developing into malignancy.

**DISCUSSION**

Prolapse as an indication for hysterectomy was seen in only 6% cases in the present study, whereas it has been reported in as high as 37.5%. Early age of marriage, birth of first child at age <20 years of age, and illiteracy all the factors contributing to consecutive two or more pregnancies. Thereafter, unsupervised delivery at home, inadequate rest after delivery, improper nutrition, working during puerperium time, and early resuming work after delivery contribute to pelvic floor weakness ultimately resulting in prolapse, especially in rural population. Thus, varying degrees of pelvic organ prolapse are common in women as young as 35 years of age, but rarely causes symptoms severe enough to seek medical attention.
Studies by few authors have found that in spite of early development of prolapse the presentation is at elderly age in India because of the fact that women give preference to their family, they have a desire to complete family over their health issues and also delay the surgery till their children are old enough to take care of themselves which gives them a sense of fulfilling their family commitments.\(^\text{[11]}\) The present study also reflects a similar picture, wherein there is a delay in seeking medical attention, thus the diagnosis and intervention with most cases presenting in the 6\(^{th}\) decade,\(^\text{[12]}\) whereas the study by other authors has more number of cases in a decade earlier, that is, the 5\(^{th}\) decade.\(^\text{[9,13]}\)

Multiparous women due to multiple pregnancies and deliveries as described before are more prone to develop prolapse as also observed in other studies.\(^\text{[2,9,13]}\) In an era where conservative surgery is the trend in an attempt to maintain the function of the organ. Frick \textit{et al.} did not recommend uterine preservation in case of surgery for uterovaginal prolapse as there are chances of development of neoplastic pathology in pre-and post-menopausal women irrespective of their presentation with or without bleeding.\(^\text{[14]}\)

Route of surgery plays a major role in the final outcome. Vaginal route of hysterectomy is usually the preferred route as the time of surgery is less and the smaller size of uterus allows for easy removal through the vaginal route. There are lesser complications, lesser duration of hospital stay, and thus making it the preferred route.\(^\text{[15,16]}\) The fallopian tubes and the ovaries are usually not prolapsed, and thus, the adnexae were preserved in more number of cases as also seen by other authors.\(^\text{[13]}\)

Majority (71\%) of the hysterectomy specimens did not show any histopathological lesion while few authors have found it as low as 12.5\%.\(^\text{[10]}\)

All multiparous women and many nulliparous women may have some degree of cervical inflammation, but it is usually of little clinical consequence.\(^\text{[17]}\) Chronic cervicitis was much more as compared to different studies.\(^\text{[6,13,18,19]}\) whereas myometrium lesion – adenomyosis was less as compared to study by Muezzinoglu \textit{et al.}\(^\text{[18]}\) Comparison between histopathological findings by other authors is as shown in Table 3.

Overall, the incidental findings were seen in range (29\%) as found by other authors, the range was about 26\%–66\% cases.\(^\text{[9,13,20,21]}\)

In the cervix, the incidental findings included malignant lesions such as cervical intraepithelial neoplasia in as high as 2.6\%,\(^\text{[13]}\) but in the present study, no such lesion was encountered.

In the endometrium, the nonmalignant findings were tuberculosis endometritis in about 1.3\%,\(^\text{[13,22]}\) Chronic endometritis was seen in 7.2\% cases only in the present study while no malignant findings were seen. Few studies have found simple hyperplasia and endometrial polyp.\(^\text{[9,13]}\) Similar to our study, adenomyosis seen in 21\% cases was the nonmalignant finding in the myometrium, whereas leiomyoma was not seen in the present study, but it was seen in as high as 29.9\% in studies by few authors.\(^\text{[9,13,18]}\) The leiomyoma was large enough to be diagnosed on the gross examination ranging in diameter from 0.5 to 5 cm.\(^\text{[13,18]}\)

Malignancy was an incidental finding in the study by few authors.\(^\text{[6,18,19]}\) It was not seen in the present study.

Leiomyoma and polyp were not present in the present study. In a study, they could be identified grossly, and this rate of detection was as high as 30.4\% whereas half of the total incidental histopathological findings were not visible on gross examination again stressing the importance of microscopic examination.\(^\text{[13]}\)

The adnexae were unremarkable in our study; however, in the study by few authors, the fallopian tube had an infectious pathology of pyosalpinx (1.3\%), whereas the ovary had simple serous cyst ovary in about 2.6\% cases.\(^\text{[13]}\)

| Study                | Age of patients | Chronic cervicitis (%) | Cervical malignancy (%) | Atrophic endometrium (%) | Endometrial polyp (%) | Normal myometrium (%) | Adenomyosis (%) | Leiomyoma (%) |
|----------------------|----------------|------------------------|-------------------------|--------------------------|----------------------|---------------------|----------------|--------------|
| Mehboob \textit{et al.}, 2002\(^\text{[12]}\) | 41-75 | 38 | 1 | 26 | 15 | 66 | 8 | 24 |
| Muezzinoglu \textit{et al.}, 2005\(^\text{[18]}\) | 38-77 | - | 1.4 | - | 4.4 | - | 20 | 29 |
| Duhan \textit{et al.}, 2008\(^\text{[9]}\) | 88.2 | 1.3 | 67 | - | 92.1 | - | - | - |
| Mahajan \textit{et al.}, 2011\(^\text{[13]}\) | 27-70 | 2.6 | 2.6 | 31.6 | 6.5 | - | 15.6 | 29.9 |
| Present study | 32-78 | 100 | - | 32.7 | - | 81.8 | 21 | 16.3 |
CONCLUSION
Grossly unremarkable specimens can have unsuspected histopathological lesion which could be potential premalignant or malignant lesions. Therefore, all hysterectomy specimens should be subjected to the histopathological examination for accurate diagnosis and proper categorization of lesions.

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Conflicts of interest
There are no conflicts of interest.

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