

ORIGINAL ARTICLE

ADENOMYOSIS AMONG SAMPLES FROM HYSTERECTOMY DUE TO ABNORMAL UTERINE BLEEDING

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Background: Adenomyosis is one of the most common, yet under diagnosed, underlying cause of abnormal uterine bleeding. We aimed to evaluate the presence of adenomyosis among the patients who presented with abnormal uterine bleeding. **Methods:** This was a retrospective study carried out on hysterectomy specimens of subjects who presented to the gynaecologist with the complaint of abnormal uterine bleeding not responding to conservative treatment. Excluded are the hysterectomies performed for malignant pelvic neoplasms and hysterectomy following labour for postpartum haemorrhage. **Results:** A total of 861 women underwent hysterectomy out of which 779 were abdominal and 82 vaginal from Jan 2008 to Dec 2012. Adenomyosis was found in 296 of the 861 specimens studied. The most frequent combination of diagnosis was leiomyoma and adenomyosis. Pathologic conditions associated with adenomyosis were: leiomyomas 150 (50.6%), endometrial polyp 16 (5.4%), genital prolapse 12 (4.05%), chronic endometritis 10 (3.3%), endometrial hyperplasia 5 (1.6%), endocervical polyps 2 (0.6%). **Conclusion:** Adenomyosis is a common pathologic finding significantly related to reproductive and menstrual characteristics of the patients.

Keywords: Adenomyosis, Hysterectomy, Leiomyoma

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INTRODUCTION

In 1860 Rokitensky first described adenomyosis as 'Cystosarcoma adenoids uterinum'. Later on, in 1869 Von Recklinghausen described the same lesion as 'Adenomyomata and Cystadenomata of uterine wall'. In 1908 Cullen described Adenomyosis as the intramyometrial tumour like condition. The current definition was given by Bird *et al* in 1972 which describes adenomyosis as the benign invasion of endometrium into the myometrium along with the endometrial stroma, surrounded by hyperplastic myometrium.¹ It is a gynaecological condition characterised by presence of ectopic glandular tissue in muscle.² Previously named as endometriosis interna, adenomyosis actually differs from endometriosis and these two disease entities are found together in only 10% of the cases.³ The aetiology of adenomyosis is poorly understood. It is an often over-looked condition that involves the endometrial-myometrial junction, characterised by the migration of endometrial glands from the basal layer of the endometrium into the myometrium, associated with smooth muscle hyperplasia.⁴⁻⁶ The ectopic glands are located at least 2-3 mm below the endometrial-myometrial junction; the associated smooth muscle hyperplasia may produce asymmetric thickening of the uterus.⁷

MATERIAL AND METHODS

This was a retrospective study conducted at the Pathology Department, Hayatabad Medical Complex, Peshawar. Record from history sheets and files of patients admitted in gynaecology ward for hysterectomy during last five years from 1st January, 2008 up to 31st

December 2012, was collected. Obstetrical hysterectomies were excluded from the study. Information was obtained regarding age, parity, clinical features, preoperative diagnosis and indication of hysterectomy. All specimens had been studied in the surgical pathology laboratory using standard histological techniques. At least three sections were taken from the uterine corpus and fundus. Adenomyosis was diagnosed if endometrial glands and stroma were found in the myometrium at a distance of at least one low power field from the endometrial-myometrial junction.⁸ Other histopathological abnormalities were noted.

Data were analysed using SPSS-15. Descriptive statistics were used to describe the data. The prevalence of adenomyosis with regard to age, parity, associated pathology and confirmation of its preoperative diagnosis was calculated.

RESULTS

During the study, 861 hysterectomy samples were evaluated. The age range of the patients was 27-62 years (Mean 44.5±24.74), a significantly higher prevalence being reported from 31-40 years. Of these, 4.05% were postmenopausal women and operated for procladentia. Among the 861 patients undergoing hysterectomy, adenomyosis was a single histopathological diagnosis in 150 cases (50.6%), or in combination with other diagnoses in 146 (49.4%). The analysis of other pathological entities (one or more in a single specimen) associated with adenomyosis showed uterine leiomyomas in 150 (50.6%), endometrial polyp 16 (5.4%), prolapsed 12 (4.05%), chronic endometritis 10 (3.3%), endometrial hyperplasia in 5 (1.6%) and endocervical polyp 2 (0.6%).

Out of the 861 patients undergoing hysterectomy, based on clinical or radiological findings, adenomyosis was stated as a single preoperative diagnosis, or in combination with other diagnoses only in 73 (8.4%) cases while 223 (82.9%) other cases turned out to have adenomyosis on histopathological examination.

Table-1: Age distribution of patients undergone hysterectomy

Age	Number of cases	Percentage
21-30	15	1.9
31-40	373	47.8
41-50	398	51
51-60	47	6
≥61	28	3.5

Table-2: Distribution of hysterectomy patients according to parity [n (%)]

Parity	All patients	Adenomyosis	Adenomyosis Prevalence
0	23 (2.6)	4 (1.3)	17
1-4	472 (54.8)	105 (35.4)	22.2
≥5	366 (42.5)	187 (63.2)	51.09
Total	861 (100)	296 (100)	34.37

DISCUSSION

The exact aetiology and pathogenesis of adenomyosis is not known. A number of theories have been put forth in this regard from time to time. Currently, the concept is the down growth and invagination of the basalis endometrium into the myometrium.⁹ What triggers this phenomenon is yet to be proven. Proposed mechanisms include a lack of the basement membrane or the presence of a defect in the membrane at the endometrial-myometrial interface, allowing endometrial tissue to grow into the myometrium. The risk factors remain unclear, including hereditary factors, uterine trauma from childbirth or abortion, chronic endometritis, and hyperestrogenemia.^{10,11} According to some authors the reason adenomyosis is common in women aged 35-50 years is because it is the time when women have an excess of oestrogen (Oestrogen dominance). Near the age of 35, women typically cease to secrete as much progesterone, which counters the effects of oestrogen. After the age of 50, due to menopause, women do not secrete much oestrogen. This correlation with hyperestrogenism was also studied by Yamamoto *et al* who proved high oestrogen concentration to be necessary for development and maintenance of adenomyosis and endometriosis.^{9,10-12}

Pakistani women in general are prone to anaemia due to inadequate imbalanced diet, high parity and poor birth spacing. Compared to men and women in the developed countries they have poor access to medical attention. When they finally seek medical attention, they are usually either late/refractory to conservative treatment. In these

circumstances, hysterectomy becomes the single most important therapeutic procedure for most of the gynaecological problems.¹³ Because of the vague and ill-defined pattern of symptoms which accompany adenomyosis there is little doubt that some women with adenomyosis may experience heavy menstrual bleeding, troublesome dysmenorrhoea, and sometimes a tender uterus. However, the frequency and severity with which these symptoms occur, and the proportion of adenomyosis sufferers who are completely asymptomatic, are quite unclear.¹⁴

Adenomyosis is rarely diagnosed correctly preoperatively and still largely under-diagnosed as it has no special symptoms of its own. In our study suspicion of adenomyosis, based on menorrhagia, pelvic pain, parity, enlarged tender uterus and suspicion on ultrasonography examination, was stated in 73 (8.4%) cases, of all the patients undergoing hysterectomy during the study period. Most of our patients with adenomyosis presented in the 4th and 5th decades of life, 4.05% of them were postmenopausal, and 97.3% were parous which is consistent with findings in national and international publications.¹⁵

In our study the indications for hysterectomy in the majority of cases, was menorrhagia/polymenorrhagia alone or in combination with fibroids or pelvic pain. Most common combination of pathology found in the specimens was adenomyosis and leiomyoma. These results generally conform to results obtained from similar studies.¹⁶⁻¹⁸

Our data shows adenomyosis in 34.37% cases. The incidence of adenomyosis ranges widely, i.e., from 6.2% to 30%.¹⁹⁻²⁴

Table-3: Findings of other similar studies

Study	Adenomyosis	Leiomyoma
Mahmood M <i>et al</i> ¹⁹	6.2%	8.8%
Qamarun Nisa <i>et al</i> ²⁰	9.6%	17%
Ahsan <i>et al</i> ²³	30%	36%
Vavilis <i>et al</i> ²⁴	19.5%	20.5%
Present study	34.37%	42.1%

CONCLUSION

Adenomyosis is a common pathologic finding, significantly related to reproductive and menstrual characteristics of the patients.

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