



RETROSPECTIVE ANALYSIS OF CHANGING TRENDS IN PRESENTATION AND MANAGEMENT OF ADENOMYOSIS

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ABSTRACT

Background Adenomyosis is a challenging clinical condition, usually diagnosed between 35 to 50 years of age, with prevalence among hysterectomy ranged from 8.8% to 61.5%. Women with adenomyosis have a profile of symptoms which includes abnormal uterine bleeding, dysmenorrhea, dyspareunia, chronic pelvic pain and subfertility. The condition was diagnosed pathologically in hysterectomy specimens by microscopy but now preoperative diagnosis is done by magnetic resonance imaging (MRI) and transvaginal sonography (TVS) and medical or surgical treatments are proposed as per the diagnosis. The diagnosis of adenomyosis as such becomes difficult due to the coexistence with other conditions like endometrial hyperplasia and uterine leiomyomas. **Methods** This is a retrospective, cross-sectional study done among 100 women admitted in the Gynaecology ward in Chettinad Hospital and Research Institute, Kelambakkam during the period of August 2019 to August 2020. Women with complaints of abnormal uterine bleeding and had hysterectomy were included. The patient's data were retrieved from the subject's case sheets obtained from Medical Records Department. The histopathological examination reports were retrieved from the Department of Pathology. The data collected were listed in Microsoft Excel v365 and interpreted using statistical software SPSS v21. **Results** Among the subjects, 35% were found to have adenomyosis in the histopathological diagnosis. Out of those, 6% had only adenomyosis followed by 11% with leiomyoma, 13% with endometrial hyperplasia and 5% with both leiomyoma and endometrial hyperplasia. 71.4% of adenomyosis were in 41 -50 years age group and 80% were multiparous. The most common presenting symptom in adenomyosis subjects were Menorrhagia (74.3%) followed by Dysmenorrhoea and Intermenstrual Bleeding with almost 50%. **Conclusion** Over the few years, a dramatic change has been attained in presentation and management of adenomyosis. It has turned into a clinical diagnosis rather than a histological entity and can be appreciated through imaging techniques, even though a common definition and classification are still in paucity. This will be of maximum concern in the forthcoming years as the disease needs to have a enduring treatment and so it has to be diagnosed earlier to provide better medical or surgical therapies and to avoid hysterectomy.

KEYWORDS : Adenomyosis, hysterectomy, menorrhagia, abnormal uterine bleeding

INTRODUCTION

Adenomyosis is considered as the abnormal presence or benign invasion of endometrial glands and stroma into the myometrium of uterus.^[1] Microscopically, it is associated with hypertrophy or hyperplasia of the myometrial stroma along with presence of heterotopic endometrial glands and reactive fibrosis of the surrounding smooth muscle cells of the myometrium.^[2,3] There is no clarity on pathophysiology of adenomyosis, but the most accepted hypothesis is the invagination of the basalis of the endometrium into the myometrium which result in adenomyosis.^[4]

It is a challenging clinical condition, found typically between the age of 35 to 50 years.^[5] Over the past 50 years, prevalence of adenomyosis among the patients who underwent hysterectomy ranges from 8.8% to 61.5%.^[6] This extensive range of prevalence is the result of non-acceptance of a definitive histopathologic criteria, variations in histologic tissue samples collected per hysterectomy, as well as different levels of perception among providers.^[7]

Clinically, 35% of the women affected with adenomyosis remain asymptomatic. Remaining, present with a profile of conditions which include abnormal uterine bleeding, dysmenorrhea, chronic pelvic pain, dyspareunia and subfertility.^[8]

The diagnosis of adenomyosis was usually done pathologically in hysterectomy specimens by microscopy but now preoperative diagnosis is done by magnetic resonance imaging (MRI) and transvaginal sonography (TVS) and medical or surgical treatments are proposed as per the diagnosis.^[9,10] The diagnosis of adenomyosis as such becomes difficult due to the coexistence with other conditions like endometrial hyperplasia and uterine leiomyomas.^[4]

OBJECTIVES

1. To estimate the incidence and varied presentation of adenomyosis.
2. To assess the association of adenomyosis with other uterine pathologies.

MATERIALS & METHODS

Study Design:

Retrospective, cross-sectional study done in the Gynaecology ward, Chettinad Hospital and Research Institute, Kelambakkam, Chennai, Tamil Nadu.

Study Duration:

This study was conducted from August 2019 to August 2020.

Study Population:

Women admitted with the complaints of abnormal uterine bleeding and underwent hysterectomy at Chettinad health facility.

Criteria for Inclusion:

Those women with complaints of abnormal uterine bleeding and underwent hysterectomy during the study period.

Criteria for Exclusion:

- Pregnant women
- Pelvic inflammatory disease
- Coagulation disorder
- Intrauterine contraceptive device in situ

Taking into account the wide range of prevalence of adenomyosis^[6], considering an average prevalence of adenomyosis (p) as 50%, with a precision (d) of 10%, at 95% confidence interval ($Z_{1-\alpha/2} = 1.96$), the sample size was calculated as, $N = Z_{1-\alpha/2}^2 * p * (1 - p) / d^2 = 1.96^2 * 0.5 * (1 - 0.5) / 0.1^2 = 96$. Thus, the total sample size required for the study was rounded off as 100. The hysterectomy patients during the study period were included consecutively till the sample size is achieved.

Data regarding socio-demographic factors, obstetric history, clinical profile, comorbidities, investigation findings were retrieved from the subject's case sheets obtained from Medical Records Department. The histopathological examination reports were retrieved from the Department of Pathology. The data collected were entered in Microsoft Excel v365 and analysed using statistical software SPSS v21.

Ethical considerations:

Ethical approval was attained from the Institutional Human Ethics Committee of Chettinad Academy of Research and Education.

RESULTS

Totally 100 subjects who had hysterectomy for AUB were considered. In the study population, 35% of the subjects had adenomyosis in their histopathological findings. Out of those, 6% had only adenomyosis followed by 11% with leiomyoma, 13% with endometrial hyperplasia

and 5% with both leiomyoma and endometrial hyperplasia. This illustrates the aspect of oestrogen in the pathophysiology of adenomyosis. The remaining 65% of the hysterectomy specimens had varied spectrum of findings which is depicted in the table 1.

Table 1: Histopathological Findings

Histopathological Diagnosis	Frequency	Percentage
Adenomyosis	6	6%
Adenomyosis + Leiomyoma	11	11%
Adenomyosis + Leiomyoma + Endometrial hyperplasia	5	5%
Adenomyosis + Endometrial hyperplasia	13	13%
Leiomyoma	17	17%
Endometrial hyperplasia + Leiomyoma	13	13%
Atypical Endometrial Hyperplasia	7	7%
Benign Ovarian cyst	7	7%
Endometrial hyperplasia + Benign Ovarian cyst	5	5%
Disordered Secretory Endometrium	6	6%
Disordered Proliferative Endometrium	8	8%
Disordered Proliferative Endometrium + Leiomyoma	2	2%
Total number of cases	100	100%

Among the subjects with adenomyosis, 40% were in 41 - 45 years age and 31.4% were in 46 - 50 years age and 28.5% were in 36 - 40 years age. Regarding socioeconomic status, 37.1% were in Lower Middle Class followed by 28.5% were in Lower Class, 20% in upper middle class and 14.3% were in Upper Class which is depicted in table 2.

Table 2: Socio demographic distribution in adenomyosis

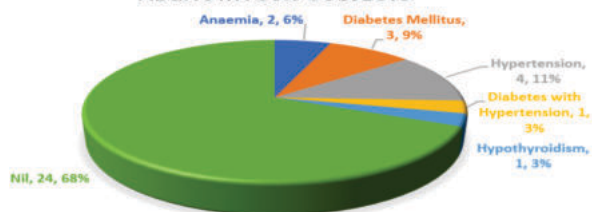
Socio demographic factors	Frequency	Percent
Age group		
36 - 40 years	10	28.57
41 - 45 years	14	40.00
46 -50 years	11	31.43
Socioeconomic Class		
Lower Class	10	28.57
Lower Middle Class	13	37.14
Upper Middle Class	7	20.00
Upper Class	5	14.29

Among the subjects, 54% had Para 2 followed by 23% had Para 3 and about 6% were nulliparous. Regarding abortions, 74% had no abortions, 25% had 1 abortion and 3% had 2 abortions, which is depicted in table 3.

Table 3: Obstetric History & Comorbidities

	Frequency	Percent
Parity		
Nullipara	2	5.71
P1	5	14.28
P2	19	54.28
P3	8	22.85
P4	1	2.86
Abortions		
A0	26	74.29
A1	9	25.71
A2	1	2.86

FIGURE 1: COMORBIDITIES AMONG ADENOMYOSIS SUBJECTS



Among the subjects, 68% had no comorbidities, 11% had hypertension, 9% had diabetes, 3% had Diabetes with Hypertension, 5% had anaemia and 3% had hypothyroidism, which is depicted in Figure 1.

Considering the clinical presentation of adenomyosis, 74.3% had Menorrhagia, 14.3% had Polymenorrhoea, 28.6% had passage of clots, 42.9% had Dysmenorrhoea and 51.4% had Intermenstrual Bleeding which is depicted in figure 2.

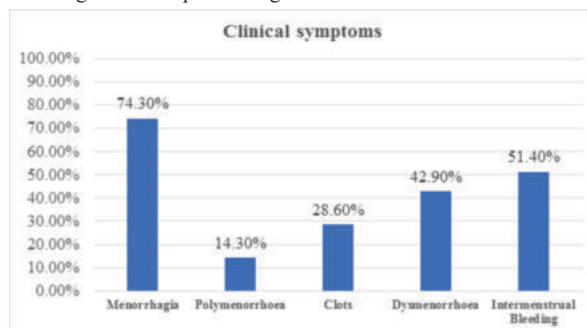


Figure 2: Clinical Symptoms among Adenomyosis subjects

DISCUSSION

The definitive adenomyotic diagnosis was illustrated by histopathology of the hysterectomy specimen till recent past. Both MRI and transvaginal ultrasound aid a great hand in characterizing and diagnosing adenomyosis since it can identify cysts in the myometrium, distorted myometrium and also heterogeneous echotexture in the myometrium and ill-defined foci of abnormal myometrial echotexture. The presence of ill-defined myometrial heterogeneity is the highly predictive finding in Transvaginal Ultrasound.^[11] The junctional zone of the myometrium and endometrium can be accurately differentiated in T2-weighted MRI of the uterus. The diagnostic of adenomyosis is now studied as the diffuse or focal thickening of this junctional zone.^[12] MRI offers up to 88% sensitivity and 93% specificity rates. There is inconclusive evidence regarding the comparison of diagnostic utility of MRI and Transvaginal ultrasound.^[13]

A precise and valid diagnosis before the procedure is crucial for non-invasive treatments for adenomyosis. Levonorgestrel-containing IUDs provides relief for adenomyosis-associated menorrhagia and further reduces the expression of endometrial vascular endothelial growth factor (VEGF).^[14] It also increments the success rate of adenomyosis treatment after endometrial ablation. Uterine artery embolization show improvement in 55% of adenomyosis patients in long-term 2 years after the procedure.^[15] MR-guided high-focus ultrasound surgery had shown successful rate in treatment of focal adenomyosis as well as reverting the infertility.^[15]

The current study included 100 women who underwent hysterectomy for Abnormal uterine bleeding. Among the subjects, 35% were found to had adenomyosis in the histopathological diagnosis. Many studies provide varied evidence of prevalence of adenomyosis. Upson et al^[6] suggested a wide prevalence of 8% to 62%. Taran et al^[16] also suggest a wide range with median prevalence around 20 – 30%.

Leiomyoma and endometrial hyperplasia were the two conditions coexisted with adenomyosis. Taran et al^[16] showed that leiomyomas are the most common condition to coexist with adenomyosis ranging from 15 – 57%. Rashmi et al^[1] also reported 34% of the adenomyosis cases were associated with hyperplasia of endometrium.

Among the 35 cases of adenomyosis, 40% were in 41 -45 years age and 31.4% were in 46 - 50 years age. Rashmi et al^[1] estimated 56% were in the 41-50 years age group. Bird et al^[17] also suggest that 41 – 50 years as the usual age group of incidence of adenomyosis.

The current study depicts the adenomyosis prevalence as higher among the lower socioeconomic classes which can be attributed to the access to health care services, healthy food and safe environment. Upson et al^[6] also found that higher the education of the subjects, lower the incidence of adenomyosis which almost reflects in their socio economic status.

80% of the adenomyosis subjects were multiparous, 54% had Para 2 followed by 23% had Para 3 and about only 6% were nulliparous. 94% of the multiparous women in Rashmi et al^[1] had incidence of adenomyosis. This also correlates with incidence reported in Wallwiener et al^[18] study. During pregnancy, the inner myometrium is invaded by the trophoblast which disrupts the junctional zone of

endometrium and myometrium, which increases the risk of adenomyosis.^[19]

The most common presenting symptom in adenomyosis subjects were Menorrhagia (74.3%). The other common symptoms were Dysmenorrhoea and Intermenstrual Bleeding with almost 50%. Rashmi et al^[1] showed 56% had menstrual disturbances followed by Dysmenorrhoea and Dyspareunia. These findings were also supported by Vercellini et al^[20]. Adenomyosis symptoms typically include menorrhagia, chronic pelvic pain and dysmenorrhea.^[16]

CONCLUSION

Adenomyosis has an adverse outcome on women's aspect of life because of abnormal uterine bleeding and pain. Over the few years, a dramatic change has been attained in presentation and management of adenomyosis. It has turned into a clinical diagnosis rather than a histological entity and can be appreciated through imaging techniques, even though a common definition and classification are still in paucity. This will be of maximum concern in the forthcoming years as the disease needs to have an enduring treatment and so it has to be diagnosed earlier to provide better medical or surgical therapies and to avoid hysterectomy.

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