

Histopathological Association of Adenomyosis with Various Gynaecological Pathologies

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ABSTRACT

Objective: To study the histopathological pattern of endometrium and associated pathological conditions in patients presenting with abnormal uterine bleeding due to adenomyosis.

Material and Methods: The study was conducted at Maulana Azad Medical College, New Delhi and included 87 patients who underwent hysterectomy and were diagnosed with adenomyosis from Jan 2017 to Dec 2019. These cases were subsequently reviewed for presenting symptoms of adenomyosis and correlated with histomorphological features and associated comorbidities. The quantitative variables were expressed as mean and qualitative variables as percentages.

Results and Conclusion: The age of the patients who had adenomyosis ranged from 25 to 65 years, majority were in the age group of 40- 50 years. Abnormal uterine bleeding was the most common symptom. The associated histopathological examination reveals pattern of endometrium from proliferative endometrium to endometrial hyperplasia. Estrogen may be a risk factor as it is associated with fibroid and endometrial hyperplasia.

Keywords: Adenomyosis, Abnormal Uterine Bleeding, Endometrium

Introduction

Adenomyosis is defined as benign invasion of endometrial tissue comprising of both endometrial glands and stroma into the underlying myometrium resulting in diffuse enlargement of the uterus.^[1] The adjacent myometrium may show changes related to hyperplasia and/or hypertrophy.^[2] The frequency of adenomyosis increases with age of the patient, peaks at 40-50 years of age and then reaches a plateau after menopause. Other risk factors include multiparity, smoking, menstrual irregularities, dilatation and curettage.^[3] The prevalence of adenomyosis is highly variable and ranges from 08% to 20% in various studies from USA, Germany, Italy, Greece. While studies from Asian subcontinent have reported a prevalence as high as 61.5%.^[4] Wide variation in prevalence may be due to difference in frequency of associated comorbidities in different population that necessitate hysterectomy.^[4] Clinical diagnosis of adenomyosis remains largely poor as upto 1/3 to 1/2 of the cases are asymptomatic. Symptomatic patients most commonly present with AUB including menorrhagia, dysmenorrhea, metrorrhagia and rarely dyspareunia.^[2,5,6] Adenomyosis is associated with various pathological disorders such as leiomyomata, endometriosis, endometrial polyp, endometrial hyperplasia and carcinoma suggesting an underlying state of hyperestrogenism.^[2,7] The diagnosis in majority of patients rests upon histopathological evaluation of hysterectomy specimen since CA-125 levels and radiological procedures

are of limited diagnostic utility.^[3] The aim of this study is to correlate the presenting symptoms of adenomyosis with histomorphological features and associated comorbidities.

Materials and Methods

The present study was conducted in Department of Pathology, Maulana Azad Medical College over a period of one and half year. All hysterectomy specimens showing features of adenomyosis on microscopic examination were included in the study and various pathological findings were evaluated. Clinical data was recorded, quantitative parameters were expressed as mean and qualitative parameters as percentage.

Results

A total of 87 hysterectomy specimens studied had adenomyosis as microscopic findings. The patients ranged from 25 to 75 years with average 43 years of age. Majority of the cases were between 40-50 years, 52/87 (59.8%). Abnormal uterine bleeding was the most common symptom seen in 47 patients (54%) followed by prolapse in 16 cases (18.4%). Twenty four patients (27.6%) were asymptomatic. The most common endometrial pattern was proliferative endometrium seen in 55 cases. Endometrial hyperplasia was present in 11 cases, secretory phase in 15 cases. Atrophic endometrium was seen in 04 cases, basal endometrium in 02 and hormonal changes were present in one case. Most common coexisting secondary pathology seen in hysterectomy specimens was presence

of leiomyomata in 36 cases (41.4%) followed by serous cystadenoma in 05 cases (5.7%). Endometrial polyp was present in 03 cases. Luteal cyst ovary was present in 05 cases. Endometriosis of ovary and omentum was present in single case. Other less common pathologies encountered were Mucinous cystadenoma ovary, Teratoma, Papillary adenocarcinoma, Serous cystadenocarcinoma, Chronic salpingitis, CIN grade 2.

Pattern of endometrium and associated pathologies	Number of cases	Percentage
Proliferative	55	63.2
Secretory	15	17.2
Atrophic	04	4.6
Basal	02	2.3
Hyperplasia	11	12.6
Leiomyomata	36	41.4
Serous cystadenoma	05	5.7
Endometrial polyp	03	3.4
Luteal cyst ovary	05	5.7
Endometriosis, ovary & omentum	01	1.1

Discussion

In 1860, Carl Von Rokitansky described adenomyosis as presence of endometrial glands in the myometrium and coined the pathology as cystosarcoma adenoids uterinum. In 1972, Bird described the condition as benign endometrial glands and stroma present ectopically in the hyperplastic and hypertrophied myometrium, resulting in diffuse enlargement of the uterus. Adenomyosis may be associated with prior history of trauma such as caesarean, dilatation curettage, myomectomy etc.^[8,9]

Adenomyosis is one of the most common causes of AUB. A classification system developed by FIGO menstrual disorders for AUB known as (PALM-COEIN) stands for Polyps, Adenomyosis, Leiomyomas, Malignancy and hyperplasia. COEIN stands for Coagulopathy, Ovulatory dysfunction, Endometrial, Iatrogenic and Not yet specified.

Majority of the cases in present study were between the age group of 40-50 years, 52/87 (59.8%). Similar findings were noted in study by Shivananjiah et al and Anwar ali et al with 50% and 73.7% cases respectively in 41-50 years age group.^[10,11]

Adenomyosis can present with nonspecific symptoms like dysmenorrhea, dyspareunia, chronic pelvic pain, abnormal vaginal bleeding and infertility, while a third of the women are asymptomatic.^[8,12] In present study Abnormal uterine bleeding was the most common symptom seen in 47/87 patients (54%) followed by prolapse in 16/87 cases (18.4%) while twenty four patients (27.6%) were asymptomatic.

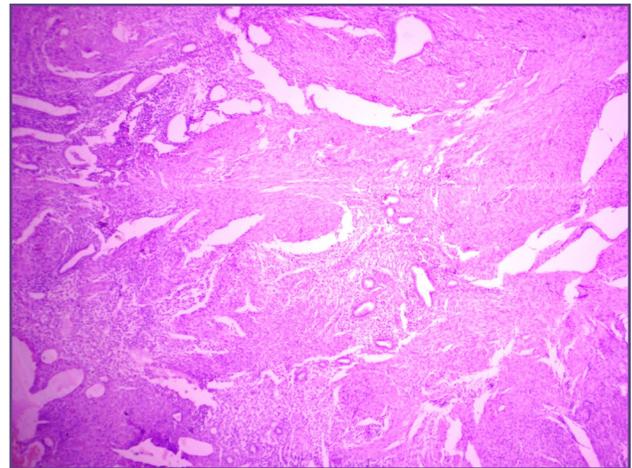


Fig. 1: H&E 4X showing endometrial gland and stroma infiltrating into the myometrium.

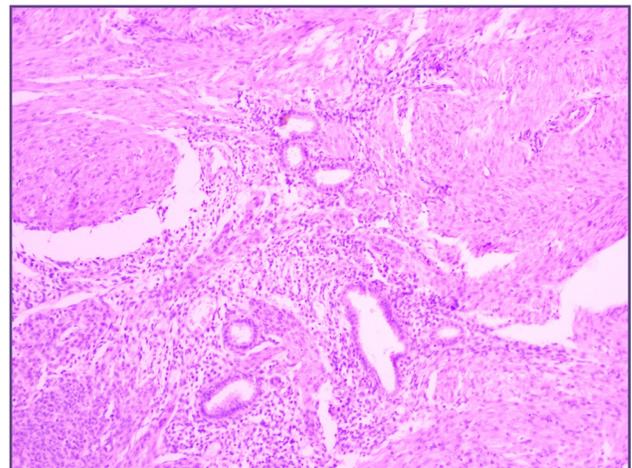


Fig. 2: H&E 10X showing endometrial gland and stroma infiltrating into the myometrium.

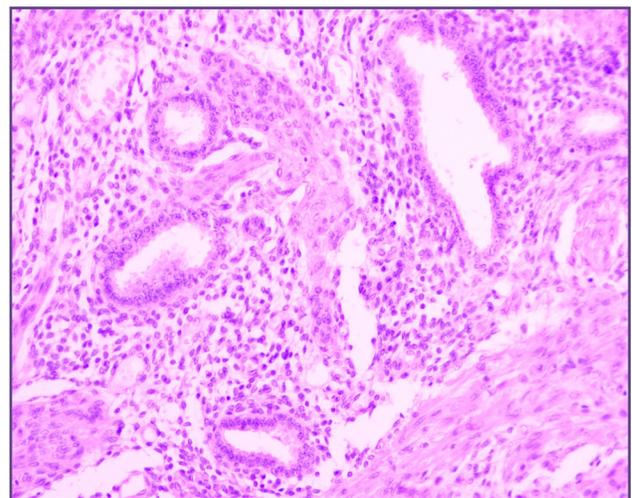


Fig. 3: H&E 20X showing endometrial gland and stroma.

In the present study the most common endometrial pattern was proliferative endometrium seen in 55/87 (63.2%) cases, hyperplasia was present in 11/87 (12.6%) cases, secretory phase in 15/87 (17.2%) cases, atrophic endometrium was seen in 04/87 (4.6%) cases, basal in 02/87 (2.3%) and hormonal changes were present in one case (1.1%). Similar findings were noted by Shivanijiah et al and Dayal et al where proliferative endometrium was seen in 59.1% and 44.4% of the cases respectively.^[10,13]

In present study 36/87(41.4%) cases had coexisting leiomyoma while previous studies have reported the existence in 19-57% cases.^[10] Parazzini et al. found significant association between adenomyosis and endometrial hyperplasia.^[14] In present study 11/87(12.6%) cases were found to have endometrial hyperplasia. Adenomyosis has been linked to lesions associated with hyperestrogenic state like endometrial polyps and endometrial carcinoma.^[15] In present study none of the cases showed endometrial carcinoma while only three cases showed endometrial polyp (3.4%).

Hysterectomy remains the most important therapeutic option for women with symptomatic adenomyosis who have completed their family.^[16,17]

Conclusion

Adenomyosis is a major cause of AUB and contributes largely in decreasing the quality of life index. The associated histopathological findings vary from leiomyoma, endometrial hyperplasia, endometrial polyps and rarely adenocarcinoma. Careful search for gross and microscopic foci of adenomyosis and associated pathologies can help in better management of patients particularly those presenting with abnormal uterine bleeding.

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