



RESEARCH ARTICLE

ADENOMYOSIS AS THE CAUSE OF ABNORMAL UTERINE BLEEDING WITH SPECIAL EMPHASIS  
ON CYSTIC CHANGE

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ABSTRACT

Abnormal uterine bleeding (AUB) is a common cause for women in the reproductive age group to be diagnosed with Adenomyosis. The prevalence of adenomyosis varies widely from 5% to 70% which is probably related to inconsistencies in the histopathologic criteria for diagnosis. The present study recorded a prevalence of 48.6 %. Two cases have been observed which showed cystic changes along with bleeding tract formation besides the uterine canal.

Key words:

Adenomyosis, Cystic change,  
Abnormal uterine bleeding.

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INTRODUCTION

Adenomyosis was first described by Rockitsky in 1860 as 'Cystosarcoma adenoids uterinum' Later on in 1869 VonRecklinghausen described same lesion as 'Adenomyomata and cystadenomata of uterine wall. In 1908, Cullen described Adenomyosis as intramyometrial tumour like condition. The current definition was given by Bird in 1972 which describes adenomyosis as the benign invasion of endometrium into the myometrium along with the endometrial stroma surrounded by hyperplastic myometrium. (Ferenczy, 1998) It is a condition characterized by presence of ectopic glandular tissue in muscles. (Matalliotakis et al., 2003) The etiology of adenomyosis is poorly understood. The ectopic glands are located at least 2-3 mm below the endometrial-myometrial junction the associated smooth muscle hyperplasia may produced asymmetrical thickening of uterus (Matalliotakis et al., 2003; Leyendecker et al., 2006; Kuligowska et al., 2005; Zaloudek and Norris, 2004). Abnormal uterine bleeding (AUB) is a common cause for women in the reproductive age group to consult a gynaecologist. AUB is also the common cause for iron deficiency anemia in our country, especially in the reproductive age group. Hysterectomy still remains the widely accepted and practiced treatment of choice for abnormal uterine bleeding.

MATERIALS AND METHODS

The present study is an observational study carried out in the department of Pathology Government Medical College, Rajnandgaon from January 2016- July 2017. The hospital being the sole tertiary care centre in the region caters a large segment of population of patients in the adjoining districts, as well as bordering Maharashtra and Madhya Pradesh. The purpose of the study was to find the prevalence of adenomyosis as the cause of AUB in the West Chhattisgarh region by histopathological examination of hysterectomy specimens received in our department. Patients of adenomyosis presents with menorrhagia, dysmenorrhea and AUB. Adenomyosis is usually not diagnosed clinically and radiologically hence requires histopathological examination of hysterectomy specimen. A total of 358 hysterectomy specimens were received in the pathology laboratory during this period. Out of these, 265 were included in the study. Inclusion criteria were women coming to outpatient department with complaint of AUB for which hysterectomy was performed. Patients in whom endometrial biopsies were inconclusive for the cause of AUB and subsequently underwent hysterectomies were also included in the study. Vaginal and abdominal hysterectomies done for complaints other than AUB, obstetrical causes and malignancies were excluded from the study. Clinical information was obtained regarding patient's age, parity, presenting symptoms, sonography findings and clinical indications for hysterectomy. On gross examination, any apparent abnormality i.e.,

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asymmetrical enlargement of the uterus, any pinpoint/cystic areas of hemorrhage and endometrial thickening was noted. A minimum of two sections were taken from the cervix, two from the corpus, one each from both the Fallopian tubes and ovaries and an additional section was taken from any other abnormal area. Sections were processed by standard histopathological techniques, stained with Hematoxylin & Eosin stain and examined microscopically.

The following criteria for the diagnosis of adenomyosis were used:

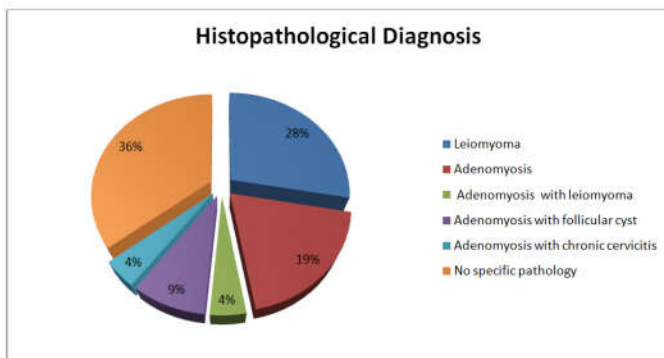
- Grossly - pinpoint/small cystic areas of hemorrhage seen within the myometrium.
- The microscopic criteria for the diagnosis of adenomyosis were the presence of endometrial glands and stroma in the myometrium more than one low power field away from the endometrial -myometrial junction.

**RESULTS**

A total of 265 cases were included in the study. Age of the patients ranged from 30 to 70 years. The largest group (n = 116) was of 41-50 years followed by 31-40 years (103) Table 1. Adenomyosis was a single histopathological diagnosis in 25.6% (n = 68) followed by dual pathology, adenomyosis with follicular cyst: 11.6 % (n=31) and adenomyosis with Leiomyoma: 5.66% (n=15) adenomyosis with cervicitis: 5.66% (n=15) [Pie Chart No 1]. Out of 265 cases of AUB, 129 cases were histopathologically diagnosed adenomyosis [Pie Chart No 2]. The overall prevalence of adenomyosis in the present study is found to be 48.6%. In the younger age groups as well as the post-menopausal age groups adenomyosis was the leading cause of AUB.

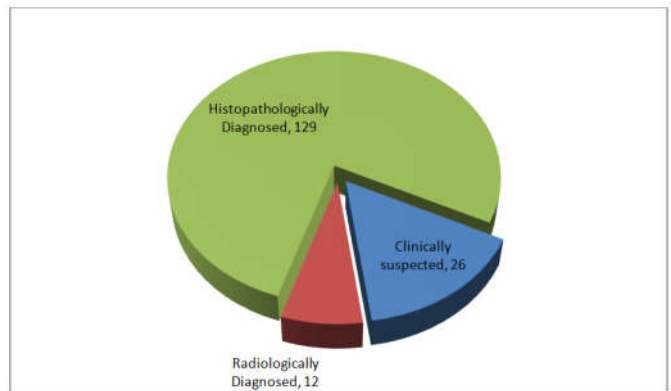
**Table 1. Age distribution of patients presenting with AUB**

Age	Number of patients	Percentage
31-40	103	38.8
41-50	116	43.7
51-60	43	16.1
61-70	03	1.1
Total	265	100 %



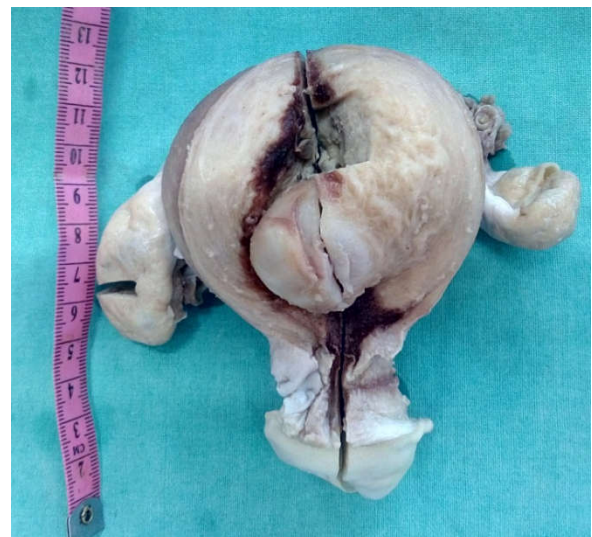
**Pie Chart 1. Histomorphology of Lesions**

Out of the 265 cases of AUB, twenty six (26) cases were clinically suspected as adenomyosis and 12 cases were diagnosed radiologically. One twenty nine (129) cases turned out to be adenomyosis on histopathological examination alone.



**Pie chart 2. Clinico Radiological correlation with histopathological diagnosis**

Two of our cases presented with heavy menstrual bleeding, pain in abdomen and dysmenorrhoea. Clinical and radiological diagnosis was fibroid uterus. Hysterectomy with bilateral salpingoopherectomy was done and tissue was sent for histopathologic examination. On gross examination it was 3cmx 3cmx 2 cm and 4cmx 3cmx 2cm uniloculated cyst at fundus and corpus respectively filled with hemorrhagic fluid, wall thickness was 0.1 cm, one of them showed separate bleeding track formation beside the original uterine canal.



**Image 1**



**Image 2**

## DISCUSSION

Exact etiopathogenesis of adenomyosis is not known. Current concept is the down growth and invagination of the endometrial basalis in to myometrium. What triggers this phenomenon is yet to be proven. (Yamamoto *et al.*, 1993) Proposed mechanism include a lack of the basement membrane or the defect in the basement membrane at endomyometrial junction allowing endometrial tissue to grow into the myometrium. The risk factors remain unclear, including here dietary factors, uterine trauma from child birth or abortion, chronic endometritis and hyperoestrogenemia. Adenomyosis is more common in reproductive age group (30 -50 years) When women have an excess of oestrogen This correlation with hyperoestrogenism was also studied by Yamamoto *et al* they have proved high oestrogen concentration to be necessary for development and maintenance of adenomyosis and endometriosis (Yamamoto *et al.*, 1993; Huang *et al.*, 2010; Xiao *et al.*, 2010; Amin *et al.*, 2013) The investigation and management of AUB among women has been hampered both by confusing and inconsistently applied nomenclature and by the lack of standardized methods for the investigation and categorization of various potential etiologies. These deficiencies hampered the ability of the investigators to study homogenous populations of patients experiencing AUB, and made it difficult to compare studies performed by different investigators or research groups. To develop a nomenclature and classification system was made more complex by the fact that a variety of potential causes may coexist in a given individual. Therefore to tackle this problem, the International Federation of Gynecology and Obstetrics (FIGO) formulated a new system of classification, PALM - COEIN, as a cause of abnormal uterine bleeding. PALM refers to structural abnormalities (Polyp, Adenomyosis, Leiomyoma, Malignancy and Hyperplasia) and COEIN (Coagulopathy, Ovulatory Dysfunction, Endometrial, Iatrogenic, None Classified). Women who fit this description generally have one or a combination of coagulopathy, disorder of ovulation or primary endometrial disorder. Another term which was replaced was "menorrhagia". It was renamed heavy menstrual bleeding (HMB) which is cyclical bleeding in excess of 80 ml per month. (Munro *et al.*, 2011)

In the present study comprising 265 cases of AUB, 116 cases (43.7%) belonged to the 41-50 years age group. Adenomyosis was the most common cause for AUB with a frequency of 48.6 % (n=129). The study is comparable to studies of Sumati *et al.*, Ghazala *et al* and Mariam *et al* which observed prevalence of adenomyosis to be 38%, 46.34% and 50% respectively. (Sumati, 2016; Ghazala *et al.*, 2013; Maryam and Iran, 2012) This is in contrast to the study done by Sajjad, *et al.*, Sarfraz, *et al.*, (Sajjad and Iltaf, 2011; Sarfraz and Tariq, 2005). In all these studies leiomyoma has been reported as the commonest pathological lesion in women with AUB. The reason for this discrepancy could be that adenomyosis being asymptomatic is usually not clinically diagnosed. It may be missed on histopathology as it may not be microscopically observed if limited tissue sections are taken, which is usually the case if there is no clinical suspicion. Therefore this lesion tends to be under diagnosed in most studies. Fibroids on the other hand are usually detected on ultrasound. Adenomyosis is rarely diagnosed correctly preoperatively and still largely under-diagnosed as it has no specific symptoms of its own. Gynecologists also for some reason usually are more tuned clinically to suspect fibroids as the cause of AUB rather than

adenomyosis. Therefore due to strong clinical suspicion they are more thoroughly investigated for this pathology. Adenomyosis still remains a histopathological finding by chance in uterine tissue sections examined for other clinically suspected pathology.

### Cystic Adenomyosis

Myometrial cyst has been cited as the most sensitive and specific feature for the diagnosis of adenomyosis Cystic adenomyosis being rare shows well circumscribed cavity along with endometrial glands and stroma within the myometrium. The cysts usually measure more than 01 cm with hemorrhagic fluid which may open into the endometrium or may have a separate tract. Two similar cases have been reported in literature. Gloria *et al.* (2015) reported a case of pedunculated subserosal cystic adenomyoma with hemorrhage resulting from menstrual bleeding by ectopic endometrial glands. Jain *et al.* (Nutan Jain and Shradha Goel, 2012) reported another two unusual cases with dysmenorrhoea. One case is of a 19 year old unmarried girl with uterine bicornis with hematometra in obstructed right rudimentary horn. Another case was of a 22 year old female with secondary infertility with broad ligament fibroid. Laparoscopically, endometriotic implants were present on bilateral ovaries and uterine ligaments.

### Conclusion

In our study, adenomyosis was found to be the most common histopathological finding in hysterectomy specimens of women with AUB with a peak incidence in the perimenopausal age group (41-50 years) in this region. Transvaginal sonography does help in differentiating between leiomyomas and adenomyosis. Despite this adenomyosis still remains a clinical challenge. Nevertheless, the possibility of this lesion has to be kept in mind by both the clinician, as well as the pathologist in women with AUB.

### Footnotes

**Source of Support:** Nil

**Conflict of Interest:** None declared.

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