Original Article

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Spectrum of Uterine Lesions in Non Pregnant Women of Reproductive Age Group Presenting with Abnormal Uterine Bleeding in Kumaon Region

Meghna Negi*, Ghazala Rizvi**

*3rd Year Resident, **Associate Professor, Department of Pathology, Government Medical College, Haldwani, Uttarakhand.

Abstract

Objective: To study the spectrum of lesions in non pregnant women of reproductive age group presenting with abnormal uterine bleeding in Kumaon region. *Study Method*: A two year prospective cross sectional study was carried out from September 2013- September 2015 in the Department of Pathology and Department of Obstetrics & Gynaecology, Government Medical College, Haldwani and associated Dr. Sushila Tiwari Memorial Hospital, Haldwani. Data was obtained from patient's proforma which included age, parity, presenting symptoms , bleeding pattern and clinical indication for hysterectomy. The specimens were studied grossly and thereafter processed and stained with hematoxylin & eosin stain for microscopic examination. *Results:* Majority of lesions were benign in nature (99.6%) while malignant lesions comprised of a very small percentage (0.4%) .The most common age group that presented with AUB was perimenopausal age group (40 -44 years) that comprised of 65.6% of the total cases. Most common lesion encountered was adenomyosis seen in 67 cases (26.8%) followed by leiomyoma seen in 45 cases (18%) which was the second most common singly occurring lesion. Heavy menstrual bleeding (HMB) was the most common bleeding pattern encountered in our study accounting for 75.6% cases. Clinopathological correlation was seen in 95.6% cases of leiomyoma while it was only 71.6% for adenomyosis.

Keywords: Abnormal Uterine Bleeding; Adenomyosis; Leiomyoma; Heavy Menstrual Bleeding.

Introduction

Uterus is a dynamic, hormonally sensitive and responsive organ which constantly and rhythmically undergoes changes in the active reproductive life. Abnormal uterine bleeding (AUB) is one of the commonest presentation of the various physiological and pathological changes occurring in the uterus during the reproductive years of a woman. AUB is defined as an alteration in the volume, pattern, and/ or duration of menstrual blood flow and is the most common reason for gynecologic referrals [1]. There are a number of procedures to evaluate the endometrium in premenopausal women with AUB. Patient's preference, clinical training, skill, cost and access issues will determine what method of evaluation best suits a patient [2]. Clinical and pathological evaluation correlated well with the diagnosis of leiomyoma, while the cases with adenomyosis showed relatively lower clinicopathological correlation. As the diagnosis of adenomyosis still remains a challenge, the clinicians as well as pathologists should keep the possibility of adenomyosis in mind while making a diagnosis in patients presenting with AUB. Histopathology is mandatory for the definitive diagnosis for AUB therefore all the hysterectomies done for AUB should be evaluated on histopathology.

Corresponding Author: Meghna Negi, Room no.74, new Resident Hostel, Government Medical College, Rampur, Haldwani, Uttarakhand 263139.
E-mail: meghnanegi09@yahoo.com

Materials and Method

A two year prospective cross sectional study was carried out in the pathology department of Haldwani and associated Dr. Sushila Tiwari Memorial Hospital, Haldwani.from September 2013- September 2015. During these two years 250 hysterectomy specimens

that satisfied the study criteria were studied in the pathology department.

The Criteria for Patient Selection are as Follows

Non pregnant patients of reproductive age group presenting with abnormal uterine bleeding for uterine pathologies who underwent hysterectomy.

The Criteria for Patient Exclusion are as Follows

1. Patients presenting with uterine bleeding where pathology was not in the uterus but elsewhere like in cervix, ovary, fallopian tubes, were excluded.
2. Pateints with abnormal uterine bleeding due to bleeding disorders, ovulatory dysfunction and iatrogenic causes were also excluded.

On gross examination any apparent abnormality that is asymmetrical enlargement of the uterus, fibroid, polyp, any pinpoint/ cystic areas of hemorrhage and endometrial thickening was noted. The number, size and location of the fibroid and/or polyp was also noted.

A minimum of two sections were taken from the cervix, two from the corpus, one from both the tubes and ovaries. An additional section was taken from the leiomyoma or any other grossly apparent abnormal area. Representative sections were stained with hematoxylin& eosin (H&E) stain and examined microscopically.

The criteria for the diagnosis of adenomyosis on gross was presence of pinpoint/small cystic areas of hemorrhage seen within the myometrium.

The microscopic criteria for the diagnosis of adenomyosis was the presence of endometrial glands and stroma in the myometrium more than half low power field away from the endomyometrial junction [3].

Out of the 250 cases studied, 249 cases (99.6 %) were benign and only 01 case (0.4%) was reported as being malignant as depicted in Table 1.

Out of the 250 cases studied, maximum were of adenomyosis accounting for 67 cases (26.8%) followed by dual pathology which included leiomyoma with adenomyosis, leiomyoma with endometrial polyp, leiomyoma with endometrial hyperplasia, leiomyoma with disordered proliferative endometrium, adenomyosis with endometrial polyp, adenomyosis with endometrial hyperplasia, adenomyosis with disordered proliferative endometrium together accounting for 53 cases (21.2%). This was followed by leiomyoma which was reported in 45 cases(18%) followed by endometrial hyperplasia in 09 cases (3.6%), disordered proliferative endometrium in 06 cases (2.4%), endometrial polyp in 04 cases(1.6%), multiple pathologies(co existence of more than 2

Table 1: Showing number of cases and their percentage distribution between benign and malignant lesions (n=250)

Nature of Lesion	No. of Cases	Percentage
Benign	249	99.6%
Malignant	01	0.4%

Table 2: Spectrum of lesions (n=250)

Lesion	No. of Cases	Percentage
Adenomyosis	67	26.8%
Leiomyoma	45	18%
Leiomyoma with adenonomyosis	26	10.4%
Leiomyoma with endometrial polyp	02	0.8%
Leiomyoma with endometrial hyperplasia	05	2%
Leiomyoma with disordered proliferative endometrium	06	2.4%
Adenomyosis with endometrial polyp	05	2%
Adenomyosis with endometrial hyperplasia	03	1.2%
Adenomyosis with disordered proliferative endometrium	06	2.4%
Endometrial hyperplasia	09	3.6%
Disordered proliferative endometrium	06	2.4%
Endometrial Polyp	04	1.6%
Malignancy	01	0.4%
Unremarkable morphology with proliferative phase endometrium	36	14.4%
Unremarkable morphology with secretory phase endometrium	23	9.2%
Unremarkable morphology with basal endometrium	02	0.8%
Multiple pathologies(>2 co-existing lesions)	04	1.6%
Total	250	100%

lesions) in 04 cases (1.6%) and malignancy (Endometrial Stromal Sarcoma) in 01 case (0.4%). Unremarkable morphology with endometrium in various phases namely secretory, proliferative and basal endometrium was seen in 61 cases (24.4%) (Table2).

Out of the 250 cases studied, 189 patients (75.6%) presented with heavy menstrual bleeding (HMB) and 61 patients (24.4%) presented with intermenstrual bleeding (IMB). (Table 3)

Regarding the location of leiomyoma in our study, the most common location was intramural leiomyoma seen in 39 cases followed by subserosal in 20 cases and submucosal leiomyomas in 10 cases. In 19 cases leiomyomas were found at multiple sites. (all leiomyomas including those seen co-existing with dual and multiple pathologies are also included in this result).(Table4)

Table 3: Profile of bleeding pattern

Pattern of Bleeding	No. of Cases	Percentage
Heavy menstrual bleeding(HMB)	189	75.6%
Intermenstrual bleeding (IMB)	61	24.4%
Total	250	100%

Table 4: Various locations of leiomyomas

Location of leiomyoma	Intramuscular	Subserosal	Multiple sites	Submucosal
No. of cases	39	20	19	10

Discussion

Abnormal uterine bleeding is one of the most frequent presenting complaints in the gynaecology department and accounts for about two thirds of all hysterectomies [4]. It occurs in 9 to 14% of women between menarche and menopause, significantly impacting not only the quality of life but also imposing a financial burden. Recurrent anovulation which is seen in cases of AUB carries an increased risk of cancer. In about 14% of perimenopausal women recurrent anovulatory cycles can lead to development of endometrial cancer or its precursor endometrial hyperplasia with atypia [5]. The etiologies of abnormal uterine bleeding are multifactorial; therefore, the Menstrual disorders working group of FIGO proposed a classification system and standardized terminology for the etiologies of the symptoms of AUB. They categorized them under the acronym PALM-COEIN. Under this the etiologies are classified as either related (PALM category) or unrelated (COEIN category) to uterine structural abnormalities [6,7]. Adenomyosis was reported as the single most common cause of AUB accounting for 67 cases (26.8%) followed by dual pathology that accounted for 53 cases (21.2%).This includes various dual coexisting pathologies in a single patient comprising of leiomyoma with adenomyosis, leiomyoma with endometrial polyp, leiomyoma with endometrial hyperplasia, leiomyoma with disordered prolifertive endometrium, adenomyosis with endometrial polyp, adenomyosis with endometrial hyperplasia and adenomyosis with disordered prolifertive endometrium. The most common dual pathology was constituted by leiomyoma with adenomyosis accounting for 26 cases (10.4%). In a study by Mobarakeh MD et al leiomyoma was the most frequent lesion accompanying adenomyosis seen in 21.7% cases[8]. In general adenomyosis alone is rarely observed under the age of 30 years. In our study only 02 cases were seen in the age group of 25-34 years. Evidence also shows that adenomyosis mostly occurs in multiparous women[8]. In the present study adenomyosis was seen as the cause of AUB in 67 out of 250 cases where in 64 patients were multipara, 02 patients were parity 1 and only 01 patient was nulliparous. Leiomyoma was reported as the third most common lesion after dual pathology and the second most common singly occurring lesion after adenomyosis in our study accounting for 45 cases (18%). The high number of cases of adenomyosis reported in our study could be attributed to the fact that Kumaon region is a relatively new territory for similar studies and not much work has been done previously in this area. So a regional variation could be accounted for such results. A study carried out in Kumaon region by Rizvi G et al showed similar results with adenomyosis in 46.34% patients and leiomyoma in 41.46% patients [9]. There is also evidence that adenomyosis is difficult to diagnose clinically as well as radiologically by transabdominal sonography. Even transvaginal ultrasonography (TVUS) has limitation in tissue characterization[10]. MRI is a helpful diagnostic tool but owing to its high cost and low socio-economic status of the patients, MRI seems a far-fetched idea for using it as an investigative modality for AUB. Even in histopathology, adenomyosis tends to be

underdiagnosed if limited tissue sections are taken from the myometrium. This is usually the case if there is no clinical suspicion and/or absence of grossly visible small hemorrhagic areas in the myometrium in hysterectomy specimens. Leiomyoma on the other hand can be easily detected clinically and radiologically as well as grossly in hysterectomy specimens [9].

Conclusion

In the present study, adenomyosis was found to be the most common cause for AUB showing peak incidence in the perimenopausal age group with a higher incidence in multiparous women. Clinical and pathological evaluation correlated well with the diagnosis of leiomyoma, while the cases with adenomyosis showed relatively lower clinico-pathological correlation. As the diagnosis of adenomyosis still remains a challenge, the clinicians as well as pathologists should keep the possibility of adenomyosis in mind while making a diagnosis in patients presenting with AUB. Histopathology is mandatory for the definitive diagnosis for AUB therefore all the hysterectomies done for AUB should be evaluated on histopathology. Hysterectomy still remains the definitive surgical treatment for AUB. However the advent of newer, minimally invasive surgical modalities like uterine artery embolism, endometrial ablation and thermal balloon therapy also show promising results in the field of treatment of abnormal uterine bleeding.

References

1. Munro MG, Critchley HO, Broder MS, Fraser IS; FIGO classification system (PALM-COEIN) for causes of abnormal uterine bleeding in nongravid women of reproductive age. FIGO Working Group on Menstrual Disorders. Int J Gynaecol Obstet. 2011; 113: 3-13.
2. Diagnosis of abnormal uterine bleeding in reproductive-aged women. Practice Bulletin No. 128. American College of Obstetricians and Gynecologists. Obstet Gynecol., 2012; 120: 197-206.
3. Zaloudek CJ, Hendrickson MR, Soslow RA. Mesenchymal Tumors of the Uterus In: Kurman RJ, Ellenson LH, Ronnett BM (eds.) Blaustein'sPathology of the Female Genital Tract. 6th edition.London; Springer: p.512-514.
4. Deanna ET, Jakubovicz D. Approach to diagnosis and management of abnormal uterine bleeding. Can Family Physician. 2007; 53: 58–64.
5. Mehla S, Singh M, Chutani N.Clinicopathological Correlation of Adenomyosis and Leiomyoma in Hysterectomy Specimens as the Cause of Abnormal Uterine Bleeding: A Retroprospective Study. Sch J App Med Sci. 2014; 2(6G): 3320-3323.
6. Munro MG, Critchley HO, Broder MS, Fraser IS. FIGO classification system (PALM-COEIN) for causes of abnormal uterine bleeding in nongravid women of reproductive age.
7. Practice Bulletin No. 128: Diagnosis Of Abnormal Uterine Bleeding In Reproductive-Aged Women. Obstet Gynecol. 2012; 120(1): 197-206.
8. Mobarakeh MD, Maghsudi A, Rashidi I. Adenomyosis among samples from hysterectomy due to abnormal uterine bleeding in Ahwaz, southern Iran. Adv Biomed Res. 2012; 1: 49.
9. Rizvi G, Pandey H, Pant H, Chufal SS, Pant P; Histopathological correlation of adenomyosis and leiomyoma in hysterectomy specimens as the cause of abnormal uterine bleeding in women in different age groups in the Kumaon region: A retroprospective study. J Midlife Health. 2013; 4(1): 27–30.
10. Michail G, Karahallou A, Skiapoulos S et al. Texture analysis of perimenopausal & postmenopausal endometrial tissue in grayscale transvaginal ultrasonography. British J Radiol. 2007; 80: 609-16.