ORIGINAL ARTICLE

Structural Causes of Abnormal Uterine Bleeding in Non Gravid Women of Reproductive Age Group

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ABSTRACT

Objective: To determine the frequency of structural causes of abnormal uterine bleeding among non-gravid females during reproductive age at tertiary care Hospital.

Methods: This cross Sectional Study was done at department of Obstetrics and Gynaecology in ISRA University Hospital Hyderabad, during 6 months from January 2015 to June 2015. A total of 194 reproductive aged non-gravid women with abnormal uterine bleeding regardless of parity were included. A thorough medical history was gathered, including a physical examination. Ultrasound pelvis and abdomen were used to assess structural causes, including endometrial thickness, the existence of cystic spaces, or focal masses and echogenic sites in the myometrium or endometrial cavity. The data was collected using a study proforma.

Results: The study included 194 non-gravid females and their mean age was 35.31±6.69 year. Among non-gravid females, structural factors of abnormal uterine bleeding were found to be endometrial polyp in 20.62% of females, adenomyosis in 11.34% of cases, leiomyoma in 58.76% cases, and endometrial hyperplasia was found in 9.28% of females. Polyp, adenomyosis, and endometrial hyperplasia were all shown to be considerably higher in women aged 41 to 49. Grand multiparous and multiparous women had significantly more polyps and adenomyosis, while primiparous and nulliparous women had significantly more endometrial hyperplasia and leiomyoma.

Conclusion: In non-gravid women of reproductive age, leiomyoma was found to be the most common cause of abnormal uterine bleeding, followed by endometrial polyp, adenomyosis, and endometrial hyperplasia.`

Key words: Abnormal uterine bleeding, Leiomyoma, Endometrial hyperplasia, Polyp, Adenomyosis.

INTRODUCTION

Abnormal uterine bleeding (AUB) is a major health issue that affects people all over the world. It has remained the most common indication of the hysterectomies among women of the developing nations.[1] AUB is described as uterine bleeding that happens abnormally when there is no pregnancy and bleeding is irregular in volume, duration, or frequency.[2] AUB is characterized as acute when it occurs in significant quantity and requires immediate management, but chronic when it is occurring for over 6 months without requiring immediate management.[3,4] Women suffering from AUB experience spotting or excessive bleeding on a regular basis.[5] Frequency / regularity of onset; volume and duration of menstruation are the parameters considered when describing bleeding.[6] In past times, due to inconsistently used nomenclature as well as a lack of established procedures for adequately analyzing and categorizing AUB's causes, there had been a lot of uncertainty about it.[7,8] To bypass this, in November 2010 the Worldwide Federation of Gynecology and Obstetrics (FIGO) created PALM-COEIN, a globally recognized classification system. This methodology was approved by the FIGO Executive Board to categorize various causes of AUB among non-gravid females of childbearing age. In this system, all non-structural and structural causes of AUB are polyp, leiomyoma, adenomyosis, malignancy and coagulopathy, hyperplasia, ovulatory dysfunction, iatrogenic, endometrial, and unclassified causes.[3] PALM-COEIN classification was performed on 991 subjects, of whom 50.05% of subjects were found to have structural causes, resulting in a 4.63% of overall prevalence for structural causes, with endometrial polyps, adenomyosis, endometrial hyperplasia, and leiomyoma account for 3%, 15%, 6.6% and 25% respectively.[4] Because of the unplanned and unpredictable nature of irregular uterine bleeding, it poses a considerable health risk for females and has a significant influence on their social, psychological, sexual, and professional performance.[9] Therefore, the goal of this research is to find out how common structural reasons of irregular uterine bleeding are in non-gravid females of reproductive age.

MATERIAL AND METHODS

This cross sectional study was conducted at Department of Obstetrics and Gynaecology in ISRA University Hospital Hyderabad. Study duration was 6 months from January 2015 to June 2015. Sample size of this study is 194 cases (Confidence level= 95%, margin of error = 3.5% and prevalence = 6.6%).[4] All the reproductive age non-gravid women (age group 25-49 years) attending ISRA University Hospital Hyderabad with abnormal uterine bleeding regardless of parity (parity either 0 or more) were enrolled in this study. All the women presenting with abnormal uterine bleeding (AUB) with history of recent pregnancy either term or early loss, suspected for cervical malignancy, suspected for bleeding occurring because of lower genital

disorders as well as those who were not agree to participate in the study were excluded. All the study participants underwent detailed history about problem along with detailed physical examination. Ultrasound pelvis and abdomen were used to assess structural causes, including endometrial thickness, the existence of cystic spaces, or focal masses and echogenic sites in the myometrium or endometrial cavity. All the information was collected via study proforma. Data was analyzed using SPSS version 20.

RESULTS

The study included 194 non-gravid females and their mean age was 35.31±6.69 year, mean parity was 2.21+1.16 and average duration of bleeding was 14.65+11.35 months. Table.1

Table 1: Descriptive statistics of age, parity and duration of abnormal bleeding n=194

Statistics	Age (Years)	Parity	Duration of bleeding (months)
Mean	35.31	2.21	14.65
Median	35	2	12
Std. Deviation	6.69	1.16	11.35
Minimum	25	1	1
Maximum	49	4	60
Interquartile Range	12	2	14

Frequency of structural causes of AUB among non-gravid females has been shown in figure 1; as 20.62% cases endometrial polyp, 11.34% cases of adenomyosis, 58.76% cases of leiomyoma and 9.28% cases of endometrial hyperplasia.

Frequency of endometrial hyperplasia, adenomyosis and polyp was significantly high among women of age group 41 to 49 years, while leiomyoma remained significantly high among women of age group ≤ 30 years as shown in table.2

Frequency of adenomyosis and polyp remained significantly high among grand multiparous and multiparous women, whereas frequency of endometrial hyperplasia and leiomyoma remained high among primiparous and nulliparous as shown in table 3.

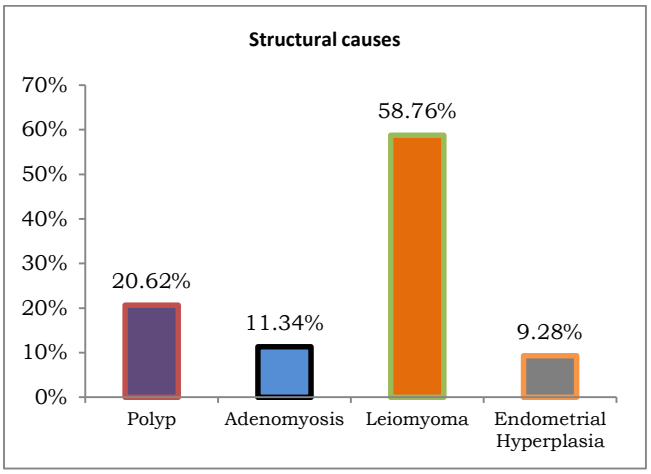

Fig.1 Structural causes of the abnormal uterine bleeding among non-gravid females n=194

Table 2: Frequency of structural causes with respect to age n=194

Structural Causes	Age Groups (Years)			P-Value
	≤30 n=64	31-40 n=78	41-49 n=52	
Polyp	4(6.3%)	20(25.6%)	16(30.8%)	0.002
Adenomyosis	0(0%)	10(12.8%)	12(23.1%)	0.0005
Leiomyoma	60(93.8%)	46(59%)	8(15.4%)	0.0005
Endometrial Hyperplasia	0(0%)	2(2.6%)	16(30.8%)	0.0005

Table 3: Frequency of structural causes with respect to parity n=194

Structural Causes	Parity				P-Value
	Nullipara	Primipara	Multipara	Grand Multipara	
Polyp	2(2.4%)	2(12.5%)	22(34.4%)	14(46.7%)	0.0005
Adenomyosis	2(2.4%)	00	10(15.6%)	10(33.3%)	0.0005
Leiomyoma	68(81%)	12(75%)	28(43.8%)	6(20%)	0.0005
Endometrial Hyperplasia	12(14.3%)	2(12.5%)	4(6.3%)	00	0.091

DISCUSSION

Abnormal uterine bleeding (AUB) has a variety of causes, which are influenced by the woman's age and stage of life. Conventional D&C is a standard and useful method of evaluating AUB in developing nations with limited resources. In this study, leiomyoma in 58.78% of cases, endometrial polyp in 20.62% of cases, adenomyosis in 11.34% of cases, and endometrial hyperplasia in 9.28% of cases were identified to be the most common structural causes of AUB among non-gravid women. We discovered that leiomyoma as the most frequent cause, accounting for 58.76% of cases, and this is also evident in other studies.[3,10] Similarly Sajjad et al[11] found leiomyoma as a common lesion among 41% of cases. On other hand Sawke NG et al[12] also reported that the leiomyoma is the most common pathological lesion among AUB suffering women. Estimate the prevalence of 20% to 40% for leiomyoma among females during reproductive age.[13] However our stratification analysis is stating that Leiomyoma was shown to be substantially more common in primiparous and nulliparous women under the age of 30. Endometrial polyps are epithelial proliferations that are localized with a glandular, vascular, connective tissue, and fibromuscular component. Columnar cervical epithelium polyps and endometrial polyps have been linked to AUB, with an incidence of 12–25% among "normal" premenopausal women experiencing AUB.[14,15] In this study, 20.62% of cases were found to have endometrial polyp. In a comparative analysis, Jetley S et al. studied 219 perimenopausal females who presented with AUB. They found 6 (2.7%) of cases with endometrial polyps.[16] Sajjad et al reported 9% of cases of AUB with endometrial polyps.[11] The presence of stroma ectopically implanted in the myometrium and endometrial glands characterize

adenomyosis, which is a frequent non-malignant uterine disorder. The myometrium undergoes hypertrophy and hyperplasia as a result of adenomyosis, causing the infertility, pain and AUB in young females.[17]

In this study, adenomyosis observed to be the 3rd commonest cause of the abnormal uterine bleeding as 11.34%. On other hand by few studies demonstrated that adenomyosis is the 2nd commonest pathological factor of the myometrium linked to abnormal uterine bleeding.[18,19] Endometrial hyperplasia's identification is the essential as it is thought to be predictor of the carcinoma of endometrium. In this study endometrial hyperplasia was found among 9.28% of the women as causative factor of abnormal uterine bleeding. On other hand Bhosle et al,[20] reported that the endometrial hyperplasia was in 17.8% of the study subjects. Consistently Takreem et al,[21] demonstrated that the out of 100 females of abnormal uterine bleeding, 15 had endometrial hyperplasia. However Khare et al found higher frequency of endometrial hyperplasia as 51% among women presented with abnormal uterine bleeding.[22]

CONCLUSION

Leiomyoma was found to be most common causative factor followed by adenomyosis, endometrial polyp and endometrial hyperplasia in non-gravid females having abnormal uterine bleeding during their reproductive age. Uterine abnormal bleeding is the critical health issue affecting females during reproductive age including significant socioeconomic impact. Early diagnosis and appropriate treatment planning may reduce the morbidity and mortality associated.

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