



Original Research Article

Study of dysfunctional uterine bleeding in patients in a medical college hospital

R Sujatha^{1,*}¹Dept. of Obstetrics and Gynaecology, Annapoorana Medical College and Hospital, Salem, Tamil Nadu, India

ARTICLE INFO

Article history:

Received 24-04-2019

Accepted 28-06-2019

Available online 12-09-2019

Keywords:

Dysfunctional uterine bleeding

Menorrhagia

Endometrium

Histopathology

ABSTRACT

Introduction: Dysfunctional uterine bleeding has been defined as abnormal uterine bleeding not caused by pelvic pathology, medications, systemic disease or pregnancy. Though it is the most common cause of abnormal uterine bleeding, DUB is a diagnosis of exclusion. It is typically characterised by heavy prolonged or profuse flow with or without breakthrough bleeding. It has great variations in endometrial patterns.

Materials and Methods: A retrospective and prospective study was conducted from January 2016 to December 2018 involving 240 patients between 20–60 years with symptoms of dysfunctional uterine bleeding presenting to Annapoorana Medical College and Hospital Salem. Their endometrial samples were obtained by dilatation and curettage or by endometrial aspiration. To have broader analysis the endometrial histopathology in hysterectomy specimens where the clinical diagnosis was DUB were also included. Patients who were registered as inpatients and outpatients with the diagnosis as DUB were included in the study. Tabulations were made with respect to age, parity, bleeding type and endometrial histopathology. Clearance from the ethical committee was obtained.

Results: The most common age group in which DUB is seen is 41-50 years group. The prominent bleeding pattern seen is menorrhagia 49%. Most common endometrial profile was proliferative pattern, seen in 40%. Next followed by disordered proliferative endometrium in frequency 35.42%. Prevalence of DUB is seen more in multiparous women.

Conclusion: DUB is seen mainly during 41-50 years age group and majority presented with menorrhagia. No specific relationship exists between bleeding pattern and histopathological profile. The cause of DUB is either anovulatory or ovulatory. Anovulatory endometrium was much more common in our study, similar to other studies.

© 2019 Published by Innovative Publication.

1. Introduction

Dysfunctional uterine bleeding is defined as excessive heavy (>80ml per month) or prolonged uterine bleeding in the absence of systemic or genital tract pathology. It affects 10% of women and is the most common cause of iron deficiency anemia and gynaecological referrals. Although upto 30% of women report symptoms, this is confirmed on objective measurement in less than a third of cases.

Dysfunctional uterine bleeding is divided in to ovulatory and anovulatory, which is more common in the postmenarchal and perimenopausal age groups. It has been shown

that 55.7% of adolescents experience abnormal menstrual bleeding in the first year or so after the onset of menarche because of the immaturity of the hypothalamo-pituitary-ovarian axis leading to anovulatory cycles. It generally takes 18 months to 2 years for regular cycles to be established.

In the premenopausal women who develop menorrhagia due to anovulation, endometrial malignancy should be ruled out prior to deciding the type of treatment. In DUB, hormonal imbalance is considered the root cause of hyperplasia of endometrium that causes menorrhagia due to unopposed influence of estrogen on the endometrium. In some cases, abnormal endometrial haemostasis is the cause of abnormal excessive bleeding.

* Corresponding author.

E-mail address: sujiguptha60@gmail.com (R. Sujatha).

Metropathia haemorrhagica is a specialised form of DUB. The most common complaint is of continuous vaginal bleeding which may last for many weeks. Bleeding is always painless since it is anovulatory. It is seen in women between 40 and 45 years. It is not related to parity.

There is a mild degree of myohyperplasia, thick polypoidal endometrium. The endometrium shows characteristics of cystic glandular hyperplasia. The swiss cheese pattern is another name given to describe this endometrium. The second feature is the absence of secretory endometrium with the absence of cork-screw glands.

2. Objectives

To study the prevalence of dysfunctional uterine bleeding in various age groups, correlation of DUB with parity, the incidence of various bleeding patterns and the endometrial profile in dysfunctional uterine bleeding.

3. Materials and Methods

A retrospective and prospective study was conducted from January 2016 to December 2018 involving 240 patients between 20 – 60 years with symptoms of dysfunctional uterine bleeding presenting to Annapoorana Medical College and Hospital Salem. A total of 255 clinically diagnosed cases of DUB were analysed. Out of these 5 cases were excluded because sample of endometrial biopsy were inadequate. Another 10 cases had organic pathology revealed in biopsy. Thus a total of 240 cases were included in the study.

3.1. Inclusion criteria

1. All women attending OG department without any coagulopathies, tumors, malignancy
2. Women aged between 20-60 yrs.

3.2. Exclusion criteria

1. Patients with coagulation disorders and hypothyroidism.
2. Patients with local cervical lesions.
3. Patients with organic lesions like endometrial polyp, leiomyoma, adenomyosis, incomplete abortion.

Detailed history of the patient was taken. A thorough clinical examination which includes per speculum and per vaginal examination, was done in each case. All patients underwent routine blood investigations and cervical pap smear. Ultrasound of abdomen and pelvis was done in all cases to rule out any organic pathology. A slightly bulky uterus, small ovarian cysts and first degree uterine prolapse were all included in our study. Endometrial samples were obtained by pipelles curette [endometrial aspiration] or by dilatation and curettage. In some cases endometrial

histopathology was got from specimens of uterus after hysterectomy.

Endometrial biopsy... using a small, thin catheter (pipelle device) endometrial sampling can be done as OPD procedure. There is no need for any anaesthesia. It was done in patients who were not willing for admission. It is cost effective compared to D&C. Time of endometrial biopsy was premenstrual and sometimes in the bleeding phase. The endometrial sample got was put in 10% formalin and sent for histopathology. Medical management was individualised, as per her age and presentation.

Informed written consent for the study was got from the patients. Tabulations were made with respect to incidence in various age groups, prevalence with respect to parity, the type of bleeding, the type of endometrial histopathology.

Two main types of endometrium are proliferative and secretory. During proliferative stage the stroma becomes extremely edematous, glands become sinuous, arteries are coiled. During the secretory phase the most characteristic signs of this phase are found in the glands.

Their epithelial cells develop spherical translucent areas between the nuclei and the basement membrane which contain the precursors of glandular secretion. This characteristic appearance is called subnuclear vacuolation and is presumptive evidence of progesterone activity and therefore of ovulation.

Data were analysed using statistical package for social studies (SPSS) version 18.

Table 1: Distribution of cases according to parity

Parity	No of women	Percentage
Nulliparity	2	00.83%
Parity1	50	20.83%
Parity2	108	45.00%
Parity3	80	33.33%
Total	240	100.00%

Table 1 shows that DUB is more common in multiparous women, which is congruent with other studies. In a study done at Kathmandu Tribhuvan University teaching hospital in 2014, DUB was found to be more common in parous ladies. The incidence of DUB in women of parity 2 and above was found to be 78.33% in Annapoorana medical college, in the study done at Tribhuvan university teaching hospital Kathmandu it was found to be 88%.

Table 2: Distribution of patients according to age group

Age group	No: of cases	Percentage
21-30 yrs	12	5.00 %
31-40 yrs	72	30.00%
41-50 yrs	146	60.83%
51-60 yrs	10	4.17%
Total	240	100%

Table 2 the most common age group in which DUB is seen is 41-50 years. Our observations are in consonance with the findings in other studies. In a study done in Thrissur Government medical college, published in 2017, DUB was more common in 41-50 yrs age group (60.83%), followed by the age group 31-40 years(30.00%).

Table 3: Most common age group in which DUB is seen, comparison between various colleges

Annapoorna medical college salem	Nepal medical college kathmandu	Thrissur govt medical college	Tribhuvan university teaching hospital kathmandu
41-50yrs	41-50yrs	41-50yrs	40-49yrs
60.83%	49.00%	47.6%	63.00%

Table 3 shows the comparison between various colleges regarding the highest incidence of DUB. In all these studies DUB was most prevalent in the age groups...41-50 years.

Table 4: Distribution of various bleeding patterns

Type of bleeding	No of cases	Percentage
Menorrhagia	118	49.18%
Polymenorrhagia	55	22.92%
Polymenorrhoea	40	16.66%
Metrorrhagia	16	06.66%
Postmenopausal bleeding	11	04.58%
total	240	100%

Table 4 the prominent bleeding pattern seen is menorrhagia 49%. This was seen Madhu patil et al,¹ Seena KB, Ajithkumar VR,² Katuwal N et al³ and other studies.

Table 5: Predominant bleeding pattern at presentation comparison between various colleges.

Annapoorana medical college salem	Nepal medical college kathmandu	Azeezia medical college kollam	Tribhuvan university teaching hospital nepal
Menorrhagia	Irregular bleeding	Menorrhagia	Menorrhagia
49.18%	46.00%	44.00%	41.60%

Table 5 shows that menorrhagia is the predominant presenting symptom in three different studies and in one study irregular bleeding was the main presenting bleeding abnormality.

4. Discussion

The endometrium has different appearance in different phases of the menstrual cycle. Essentially the endometrium consists of three structures: the endometrial lining epithelium, endometrial glands and stroma.

DUB denotes abnormality in normal cyclic menstrual flow, in amount, duration or interval caused by disturbances

of endocrine mechanism that control menstruation. Most of the cases are due to anovulation, such cycles are common at both ends of reproductive life. Failure of ovulation may be due to dysfunction of HPO axis, adrenal or thyroid dysfunction, malnutrition, obesity or severe physical or emotional stress. It leads to estrogen excess. Thus endometrium goes through a proliferative phase that is not followed by normal secretory phase.

Table 6: Distribution of various endometrial profiles

Endometrial profile	No of cases	Percentage
Disordered Proliferative	85	35.42%
Proliferative	96	40.00%
Secretory	26	10.83%
Cystic atrophic	15	6.25%
Pill endometrium	9	3.75%
Simple hyperplasia without atypia	6	2.5%
Atypical hyperplasia	3	1.25%
Total	240	100%

Table 6 most common endometrial profile was proliferative pattern, seen in 40% of cases. This is followed by disordered proliferative endometrium, seen in 35.42% cases. Similar results of proliferative endometrium being the commonest were seen in Hoon CN et al,⁴ Muzaffar M et al,⁵ Maheshwari V et al,⁶ S. Kayastha⁷ and other studies.

In latter part of secretory phase, the glands become crenated and assume a corkscrew-shaped form later the glands become saw-toothed. Due to lack of progesterone support, endometrium collapses leading to bleeding. An excess of estrogen if prolonged will induce endometrial hyperplasia. DUB also develops when ovulation occurs but corpus luteum function is insufficient leading to irregular ripening of endometrium (luteal phase defect) or there may be abnormal persistence of corpus luteum leading to irregular shedding. Ovulatory DUB is associated with secretory endometrium. Hormonal imbalance is considered the root cause of hyperplasia of the endometrium that causes menorrhagia; this often happens in anovulatory cycles with excessive or unopposed influence of oestrogen on the endometrium.

Mild to moderate anemia was seen in many cases. A few cases had severe anemia requiring packed cell transfusion. Overall, the anovulatory bleeding was much more common than ovulatory bleeding in our study. The medical diseases which were found to be associated with DUB were diabetes mellitus, hypertension in the higher age group and anemia irrespective of age.

Hysteroscopy is the latest in the diagnostic armamentarium, specially useful when there is a endometrial polyp, where in polypectomy can also be done.

5. Conclusion

DUB is more commonly seen in perimenopausal age group. Prevalence is more in multipara. 49% presented with menorrhagia. There was no association between the various bleeding patterns and histopathology of endometrium.

Histopathological examination is a must to rule out local causes and help to determine mode of management. Unnecessary radical treatment can be avoided by performing histopathological study of endometrium got by uterine curettage.

Endometrial curettage followed by histopathological examination of the tissue is the definitive confirmatory test to rule out hyperplasia and malignancy. The thickness of endometrium measured by ultrasound is only indicative and not confirmatory.

6. Source of support

None declared

7. Conflict of interest

None declared

References

1. Madhupatil, Hiremath RS. Bleeding patterns in DUB & correlation with histopathology of endometrium. *Indian J Obstetrics Gynaecol.* 2018;6(1).
2. Seena KB, Ajithkumar VR. A study of dysfunctional uterine bleeding-clinical factors and endometrial histology. *J Evol Med Dent Sci.* 2017;6(19):1494–1497. Available from: [10.14260/Jemds/2017/327](https://doi.org/10.14260/Jemds/2017/327).
3. Katuwal N, Gurung G, Rana A, Jha A. Clinicopathological study of DUB. *J Pathol Nepal.* 2014;4:635–638.
4. Hoon CN, Chan P, Joon CI. Clinicopathological study of the endometrium of dysfunctional uterine bleeding. *The Korean J Pathol.* 1989;23:65–74.
5. Muzaffar M, Akhtar K, Yasmin S, Rehman M, Iqbal W, Khan M. Menstrual irregularities with excessive blood loss: A clinicopathological correlation. *J Pak Med Assoc.* 2005;55:16304868–16304868.
6. Chakraborty AMV, Tyagi S, Sharma R, Alam K, Mohsin S. Endometrial changes in abnormal uterine bleeding. *J Obstet Gynaecol.* 1996;33(4):389–394.
7. Kayastha S. *Nepal Med Coll J.* 2013;15(1):27–30.

Author biography

R Sujatha Associate Professor

Cite this article: Sujatha R. Study of dysfunctional uterine bleeding in patients in a medical college hospital. *Indian J Obstet Gynecol Res* 2019;6(3):308-311.