Histopathological Study of Endometrium in Dysfunctional Uterine Bleeding

Authors
Dr Dipti Panwar MD (Pathology), Dr Abhishek Anand MD (Medicine)
Dr (Prof.) Abha Patni
Dept. of Pathology, RNT Medical College, Udaipur
Email: drdipiti99@gmail.com, Mobile no.-9602324374

Introduction
Women suffer from many gynaecological diseases. One among them is dysfunctional uterine bleeding, which has significant morbidity in that it interferes with their personal, family and social life. It is estimated that 9-30% of women of reproductive age suffer from menorrhagia. The prevalence increases with age, peaking just before menopause. Because most cases are associated with anovulatory menstrual cycles, adolescent and perimenopausal women are particularly vulnerable. About 20% of affected individuals are in the adolescent age group and 50% of affected individuals are aged between 40-50 years. The term dysfunctional uterine bleeding is used to describe abnormal uterine bleeding for which no specific cause has been found. It is the diagnosis of exclusion.

Endometrial biopsy is chosen to evaluate DUB because it has several advantages over other diagnostic methods. The hormonal assay is very expensive and such laboratories are not available in rural areas.

Ultrasonography as a diagnostic tool has limited value in DUB, except in atrophy and hyperplasia. Other investigations such as hysteroscopy and hysterosalpingography are mainly helpful in diagnosing organic pathology.

Methodology

Source of data- RNT Medical College, Udaipur
Inclusion criteria- All cases of dysfunctional uterine bleeding received by Department of Pathology, RNT Medical college. DUB cases forming part of hysterectomy were also included in study.
Exclusion criteria- Autolysed specimen
Number of cases- 100
Method of collection of data- The study material consisted of endometrial curettings from 100 patients attending Gynaecological OPD during a period between August 2013 to December 2014. These patients were having a clinical diagnosis of DUB and were in the age group of 17-50 years. Endometrial curettage samples were fixed in 10% formalin and histopathological slides were prepared and Hematoxyline and Eosin staining was done. Special stains like Periodic acid-Schiff staining (PAS) and reticulin was performed when warranted.
Results

100 cases of DUB were analysed in the following ways:

1. Distribution of DUB cases according to various age groups (Table 1)
2. Relation of DUB with parity (Table 2)
3. Bleeding pattern in DUB patients (Table 3)
4. Type of endometrial pattern in 100 cases of DUB (Table 4)
5. Type of bleeding patterns in 100 DUB cases:
   - In relation with Menorrhagia (Table 5)
   - In relation with Metrorrhagia (Table 6)
   - In relation with Polymenorrhagia (Table 7)
   - In relation with Oligomenorrhoea (Table 8)
   - In relation with Menometrorrhagia (Table 9)

Table 1: Distribution of 100 DUB cases according to various age groups

| Age group | No. of cases | Percentage |
|-----------|--------------|------------|
| <20       | 1            | 1.0        |
| 20-25     | 4            | 4.0        |
| 26-30     | 5            | 5.0        |
| 31-35     | 16           | 16.0       |
| 36-40     | 31           | 31.0       |
| 41-45     | 21           | 21.0       |
| >46-50    | 22           | 22.0       |
| Total     | 100          | 100.0      |

The above table shows DUB in different age groups and the maximum incidence of DUB was seen in females within age group of 36-40 years.

Table 2: Relationship of DUB with parity

| Type of parity   | No. of cases | Percentage |
|------------------|--------------|------------|
| Primipara        | 7            | 7.0        |
| Multipara (1-3)  | 71           | 71.0       |
| Grand Multipara  | 19           | 19.0       |
| Unmarried        | 3            | 3.0        |
| Total            | 100          | 100.0      |

The above chart shows relationship of DUB with parity. In unmarried DUB was seen only in 03 cases. Maximum incidence was seen in multiparous women.

Table 3: Bleeding pattern in 100 DUB patients

| Type of bleeding     | No. of cases | Percentage |
|----------------------|--------------|------------|
| Menorrhagia          | 80           | 80         |
| Metrorrhagia         | 13           | 13         |
| Polymenorrhagia      | 3            | 3          |
| Oligomenorrhoea      | 2            | 2          |
| Menometrorrhagia     | 2            | 2          |

The above chart depicts the different patterns of bleeding in DUB. Maximum number of patients presented with menorrhagia whereas only 2 females came with oligomenorrhoea, the same incidence was seen with menometrorrhagia.

Table 4: Types of endometrial pattern in 100 cases

| Type of Endometrium       | No. of cases | Percentage |
|---------------------------|--------------|------------|
| Proliferative Phase       | 50           | 50         |
| Secretory Phase           | 17           | 17         |
| Cystoglandular Hyperplasia| 15           | 15         |
| Adenomatous Hyperplasia   | 01           | 1.0        |
| Endometrial Polyp         | 01           | 1.0        |
| Atypical Hyperplasia      | 01           | 1.0        |
| Arias-Stella Reaction     | 02           | 2.0        |
| Chronic Endometritis      | 02           | 2.0        |
| Pill Endometrium          | 02           | 2.0        |
| Mixed Endometrium         | 05           | 5.0        |
| Lytic Endometrium         | 04           | 4.0        |
| Total                     | 100          | 100        |

The above table depicts the endometrial pattern encountered in 100 DUB patients. Different histopathological types of endometrium patterns were studied.

Table 5: Correlation of Menorrhagia in relation to endometrial pattern

| Type of Endometrium       | No. of cases | Percentage |
|---------------------------|--------------|------------|
| Proliferative Endometrium | 42           | 42         |
| Secretory Endometrium     | 12           | 12         |
| Cystoglandular Hyperplasia| 10           | 10         |
| Adenomatous Hyperplasia   | 01           | 01         |
| Arias-Stella Reaction     | 02           | 02         |
| Complex Hyperplasia       | 01           | 01         |
| Mixed Endometrium         | 04           | 04         |
| Lytic Endometrium         | 04           | 04         |
| Pill Endometrium          | 02           | 02         |
| Chronic Endometritis      | 02           | 02         |
| Total                     | 80           | 80         |

There were 80 cases of DUB presenting with menorrhagia out of which 42 females had endometrium in proliferative phase.
Table 6 Correlation of Metrorrhagia in relation to endometrial pattern

| Type of Endometrium       | No. of cases | Percentage |
|---------------------------|--------------|------------|
| Proliferative Endometrium | 04           | 04         |
| Secretory Endometrium     | 04           | 04         |
| Cystoglandular Hyperplasia| 03           | 03         |
| Endometrial Polyp          | 01           | 01         |
| Mixed Endometrium          | 01           | 01         |
| Total                      | 13           | 13         |

Table 7 Correlation of Polymenorrhagia in relation to endometrial pattern

| Type of Endometrium       | No. of cases | Percentage |
|---------------------------|--------------|------------|
| Proliferative Endometrium | 02           | 2.0        |
| Secretory Endometrium     | 01           | 1.0        |
| Total                     | 03           | 3.0        |

Table 8 Correlation of Oligomenorrhoea in relation to endometrial pattern

| Type of Endometrium       | No. of cases | Percentage |
|---------------------------|--------------|------------|
| Cystoglandular Hyperplasia| 01           | 1.0        |
| Total                     | 01           | 1.0        |

Table 9 Correlation of menometorrhagia in relation to endometrial pattern

| Type of Endometrium       | No. of cases | Percentage |
|---------------------------|--------------|------------|
| Proliferative Endometrium | 02           | 2.0        |
| Total                     | 02           | 2.0        |

Discussion

- Patients belonging to different age groups (between 17-50 years) were studied. The maximum incidence of DUB was in the 36-40 years age group. The minimum incidence of DUB was in 17-20 years age group.
- Patients belonging to various types of parity were studied. Maximum incidence of DUB was seen in the parity of 1-3 (71%). Minimum incidence was seen in nulliparous women (3%).
- Various types of endometrial patterns were studied. The incidence of proliferative endometrium was 50%, secretory endometrium 17%, cystoglandular hyperplasia 15%, adenomatous hyperplasia 1%, endometrial polyp 1%, atypical hyperplasia 1%, arias-stella reaction 2%, chronic endometritis 2%, pill endometrium 2%, mixed endometrium 5% and lytic endometrium was 4%.
- In the age group of 17-20 years only one case of proliferative endometrium was seen.
- In the age group of 21-30 years, 66.66% of proliferative phase, 22.22% of cystoglandular hyperplasia and 12.01% of mixed endometrium were seen.
- In the age group of 31-40 years 45.83% of proliferative phase, 22.97% of secretory phase, 12.5% of cystoglandular hyperplasia, 4.86% of arias-stella reaction, 2.08% of pill endometrium, 6.25% of mixed endometrium and 4.16% of lytic endometrium were seen.
- No cases of irregular shedding and irregular ripening of endometrium were seen.
- Incidence of associated organic pathology was 03%. One case of endometrial polyp and two cases of chronic endometritis were seen.
- The most common bleeding pattern encountered in DUB was menorrhagia. 80% patients presented with menorrhagia, followed by metrorrhagia which was seen in 13% of cases.

Conclusion

Study of endometrial microscopy in women with DUB is helpful in distinguishing anovulatory from ovulatory DUB and to diagnose hyperplasia and carcinoma of endometrium.
Dilatation and curettage reveals endometrial pattern in DUB in different cases, varying from normal proliferative and secretory patterns to irregular shedding, irregular ripening and cystoglandular hyperplasia patterns. Dilatation and curettage is helpful to exclude other organic pathology, which mimics dysfunctional uterine bleeding like endometrial polyp, chronic endometritis, endometrial carcinoma etc. Therefore conclusion is that dilatation and curettage is useful for diagnosis, to assess therapeutic response and to know the pathological incidence of organic lesions in cases of dysfunctional uterine bleeding prior to surgery.

References
1. Chabra S. Jaswal M, Nangia V. Uterine size, endometrium fertility in women with dysfunctional uterine haemorrhage. J. Obstet Gynaecol India, 1992; 42:pp.692-694.
2. Purandare CN. Dysfunctional Uterine Bleeding – An Update. FOGSI, Jay Pee Medical Publishers, New Delhi, 2004.
3. Scommegna A. and Paul W. Dmowski 1973. “dysfunctional uterine bleeding” Clin Obstet Gynaecol, 1973;16(3):221-253.
4. Palter S.F. David L. Olive. “Reproductive physiology”. Chapter 7 in Novak's Gynaecology, Edit. By Jonathan S. Berek, 12th edition, Maryland William and Wilkins,1996:149-174pp.
5. Speroff L., Robert H. Glass, Nathan G. Kase. “Regulation of menstrual cycle” chapter 6 in Clinical Gynaecologic Endocrinology and Infertility Edit. By Charles Mitchell. 6th edition, Maryland. Lippincott Williams and Winkins, 1999:201-246pp.
6. More Ian A.R. “The normal human endometrium”. Chapter 10 in Haines and Taylor Obstetrical and Gynaecological Pathology, Edit. By Fox H. 4th edition Churchill Livingstone. 1995: 365-382.
7. Jeffcoate N. Principles of gynaecology: “Abnormal and excessive uterine bleeding”. Chapter 30,6th edition, London, Butterworths,2001:560-580pp.
8. Ronnett B.M. and Rober J. Kurman. “Precursor Lesions of Endometrial Carcinoma” chapter 11 in Blaustein Pathology of Female Genital Tract. Edit. By Kurman R.J. 5th edition, New York, Springer-Verlag,2002:467-500pp.
9. Howkins and Bourne Shaw’s textbook of gynaecology: “Menorrhagia and dysfunctional uterine bleeding”. Chapter 22, Edit. By Padubidri V.G. and Shirish N.D.13th edition, New Delhi, Elsevier,2004:291-299pp.
10. Prat Jaime chapter 68, “Female Reproductive System” Edit. By Damjanov I and Linder J. Anderson’s Pathology,10th edition. Vol 2, Mosby, 1996:pp. 2261-2265.
11. Charusheela D. Diofode, Fernandes K “study of thyroid dysfunction in patients with dysfunctional uterine bleeding”, J Obstet and Gynaecol India, 2001, 51(2):pp.93-95.
12. Mukherji and Roy Choudhary NN J. Obstet and Gynaecol India.1986, 36 pp.121.