Section: Pathology

Original Research Article

CLINICO-HISTOPATHOLOGICAL CORRELATION OF HYSTERECTOMY SPECIMEN IN CASES OF ABNORMAL UTERINE BLEEDING

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ABSTRACT

Background: The female genital tract comprises of uterus, cervix, vagina, vulva and bilateral fallopian tubes with ovaries. Endometrium is hormonally sensitive and responsive, constantly undergoes changes especially during reproductive age. Abnormal uterine bleeding (AUB) is considered as one of the most common gynecological problem accounting about one third of all out patient gynecological visit. The causes of AUB vary according to age, endometrial response to hormones and their variations and other structural lesions. Most common indication for which hysterectomy is being done are dysfunctional or abnormal uterine bleeding, uterine fibroids, uterine prolapse, endometriosis and adenomyosis. Every hysterectomy sample must be examined histopathologically because histology is the only source of the final diagnosis. The aim and objective is to evaluate hysterectomy specimen of AUB cases histologically and correlated with clinical diagnosis. **Materials and Methods:** The prospective study was undertaken by the department of pathology, GAIMS (Gujarat Adani Institute of Medical Sciences) Bhuj, Gujarat, India during a period of February 2023 to February 2024. **Result:** Total 143 hysterectomy specimens with clinical history of AUB were studied histopathologically. Most common age group affected was 41-50 years 81(56.64%) cases. Majority of the cases had clinical diagnosis of adenomyosis 76(53.14%) followed by fibroid 37(25.89%). In histopathological examination, most common structural cause was adenomyosis 70(48.95%) followed by adenomyosis with leiomyoma 43(30.07%). Functionally abnormal endometrium was present in 14(9.80%) cases. Endometrial hyperplasia was diagnosed in 11(7.69%) cases and 1(0.70%) case had endometrial carcinoma. **Conclusion:** Abnormal uterine bleeding is the most common cause of hysterectomy in perimenopausal women. Functional and structural both causes are included in abnormal uterine bleeding. Histopathology is important in each hysterectomy specimen to confirm clinical diagnosis and to rule out endometrial hyperplasia and carcinoma. Histopathological examination aids in further management of the patient.

INTRODUCTION

The female genital tract comprises of uterus, cervix, vagina, vulva and bilateral fallopian tubes with ovaries. Under the regulatory mechanism of hypothalamo-pituitary-ovarian axis, ovaries secrete hormones – estrogen and progesterone which have their effect on uterine endometrium. Thus, endometrium is hormonally sensitive and responsive, constantly undergoes changes especially during reproductive age. Abnormal uterine bleeding (AUB) is considered as one of the most common gynecological problem accountings about one third of all out patient gynecological visit.[1,2] Abnormal uterine bleeding is defined as changes in the frequency of menstruation, duration of flow, or amount of blood loss.[3] AUB interferes with women's physical, social, emotional and material quality of life.[4] The causes of AUB varies according to age, endometrial response to hormones and their variations and other structural lesions.[5] Common causes of AUB include dysfunctional uterine bleeding, fibroid, adenomyosis, endometrial polyp, endometrial hyperplasia, endometrial carcinoma, pelvic inflammatory diseases and endometritis. Dysfunctional uterine bleeding is defined as abnormal uterine bleeding without demonstrable organic cause.[6] It may be anovulatory characterized

by irregular, unpredictable bleeding (metrorrhagia) or ovulatory resulting in heavy but regular periods (menorrhagia).[7] Despite variety of treatment option, such as medication and conservative surgical techniques, hysterectomy remains the most common gynecological procedure performed globally.[8] Most common indication for which hysterectomy is being done are dysfunctional or abnormal uterine bleeding, uterine fibroids, uterine prolapse, endometriosis and adenomyosis.[9] Every hysterectomy sample must be examined histopathologically because histology is the only source of the final diagnosis.[10]

Aim and objective: To evaluate hysterectomy specimen of AUB cases histologically and correlated with clinical diagnosis.

MATERIALS AND METHODS

The present study was undertaken by the department of pathology, GAIMS (Gujarat Adani Institute of Medical Sciences) Bhuj, Gujarat, India.

Study design: Observational Prospective study

Duration of study: February 2023 to February 2024

Inclusion criteria:

All hysterectomy cases of clinical diagnosis AUB.

Exclusion criteria:

Hysterectomy done for causes other than AUB like obstetric hysterectomy, Cervical - vaginal pathology, functional ovarian tumor, uterine prolapse

Method: Hysterectomy specimen with properly filled form was received at histopathology section of pathology department. Specimens were cut open and fixed in 10% formalin for 24 hours. Proper gross examination and representative sections were taken from cervix, endometrium, myometrium and associated lesion. Few cases have unilateral or bilateral adnexa; sections were taken from adnexa. Sections were processed in automated tissue processor, stained with H&E stain and examined under light microscope. Result of only endometrium and AUB related lesions were included in this study.

RESULTS

In present study total 143 cases of hysterectomy with clinical diagnosis of abnormal uterine bleeding were included. In our study, majority of the female 81(56.64%) were of age group 41-50 years, followed by 37(25.87%) female of 31-40 years of age. Least no. of cases 2 (1.40%) were seen in age >70 years. [Table 1].

Most common bleeding pattern seen in our study was menorrhagia 116 (81.11%) followed by polymenorrhea 16(11.20%). [Table 2].

Majority of cases 76 (53.14%) had clinical diagnosis of Adenomyosis. Second most common clinical diagnosis was fibroid 37(25.89%). Endometrial hyperplasia and carcinoma was not clinically suspected in any case. [Table 3].

On gross and microscopic examination, most common endometrial features found were proliferative phase 72(50.35%), while functionally abnormal endometrium was present in 19(13.28%) cases. Atrophic endometrium is also considered important cause of abnormal uterine bleeding, was present in 14(9.80%) cases. Among premalignant and malignant lesions, 11(7.69%) cases had endometrial hyperplasia without atypia [Figure 1] and 1(0.70%) case had endometrial carcinoma [Figure 2]. [Table 4].

Among structural causes of abnormal uterine bleeding, Adenomyosis [Figure 3] was the most common findings seen in 70(48.95%) cases followed by combination of adenomyosis and leiomyoma in 43(30.07%) cases and leiomyoma [Figure 4,5] alone in 16(11.18%) cases. Endometrial polyp [Figure 6] was seen in combination with adenomyosis. [Table 5].

Table 1: Age wise distribution of cases

Age group	No. of cases	Percentage
<30 years	8	5.59 %
31-40 years	37	25.87 %
41-50 years	81	56.64 %
51-60 years	10	7.0 %
61-70 years	5	3.50 %
>70 years	2	1.40 %

Table 2: Bleeding pattern in AUB

Bleeding pattern	No. of cases	Percentage
Menorrhagia	116	81.11%
Polymenorrhea	16	11.20%
Metrorrhagia	10	6.99%
Oligomenorrhea	1	0.7%

Table 3: Clinical diagnosis of AUB

Clinical diagnosis	No. of cases	Percentage
Adenomyosis	76	53.14%
Fibroid	37	25.89%
Endometrial polyp	14	9.79%
Adenomyosis+ Fibroid	11	7.69%
DUB	05	3.49%
Hyperplasia	00	00%
Carcinoma	00	00%

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Table 4: Endometrial features in hysterectomy specimen in case of AUB

Endometrial features	No. of cases	Percentage
Proliferative	72	50.35 %
Secretory	26	18.18 %
Disordered proliferative	19	13.28 %
Atrophic endometrium	14	9.80 %
Endometrial hyperplasia without atypia	11	7.69 %
Endometrial carcinoma	01	0.70 %
Endometrial hyperplasia with atypia	00	00 %
Hormonal effect	00	00 %

Table 5: Structural causes of AUB in hysterectomy specimen

Structural cause	No. of cases	Percentage
Adenomyosis	70	48.95 %
Leiomyoma + Adenomyosis	43	30.07 %
Leiomyoma	16	11.18 %
Adenomyosis + Polyp	09	6.30 %
Leiomyoma + Polyp	05	3.50 %
Polyp	00	00 %

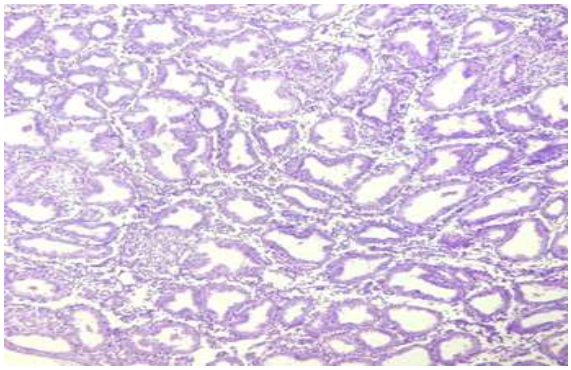

Figure 1: Endometrial hyperplasia without atypia (H&E stain, 10x)

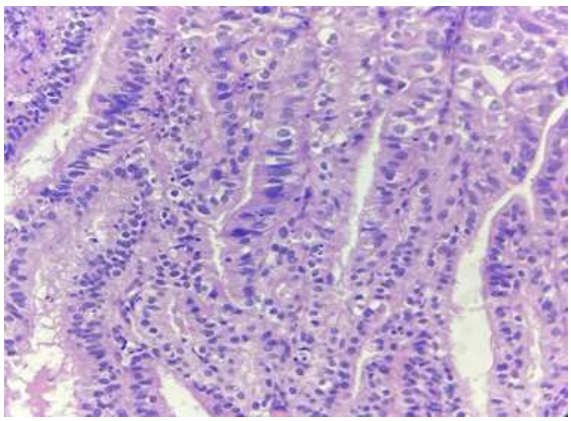

Figure 2: Endometrial carcinoma (H&E stain, 40x)

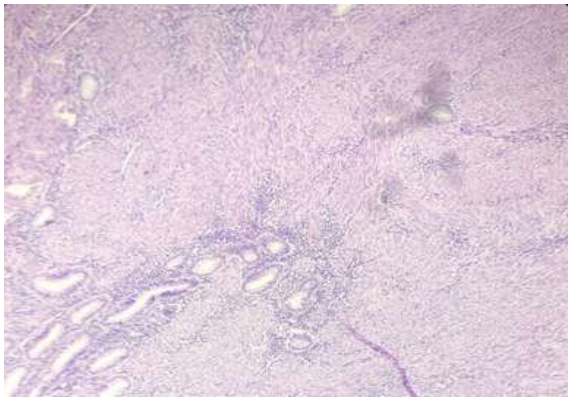

Figure 3: Adenomyosis (H&E stain, 10x)

Figure 4: Fibroid (Well circumscribed single intramural fibroid)

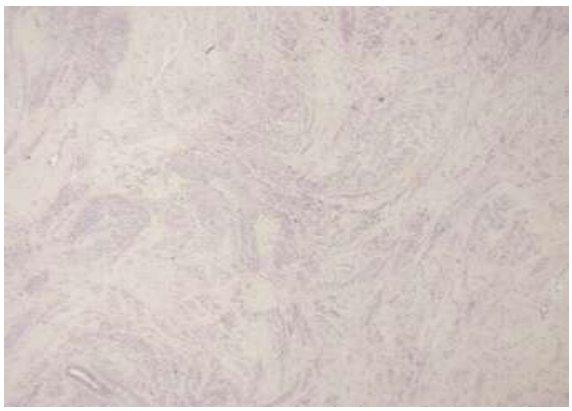

Figure 5: Intramural leiomyoma (H&E stain, 10x)

Figure 6: Endometrial polyp

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DISCUSSION

The present study was carried out on 143 patients. In our study majority of the patient were in 3rd and 4th decade of their life. This finding is comparable with study by Jain Priyanka et al.[11]

Abnormal uterine bleeding is common in perimenopausal age group due to irregular menstrual cycle as a result of decreased number of ovarian follicles and their increased resistance to gonadotrophic stimulation resulting in low level of oestrogen which cannot keep the normal endometrium growing.[12]

Most common bleeding pattern observed in our study was menorrhagia (81.11%) followed by polymenorrhea (11.20%) and metrorrhagia (6.99%). This bleeding pattern is similar to study by Muzzafar et al,[13] and Usha GD et al.[14]

In our study most common endometrial pattern was proliferative followed by secretory, which is similar to study by Usha GD et al,[14] and Layla S. Et al.[15]

Most common clinical diagnosis in our study was Adenomyosis (53.14%) followed by fibroid (25.89%) and combine fibroid + adenomyosis (7.69%). These findings slightly differ from other studies.

In our study endometrial hyperplasia without atypia was found in (7.69%) cases. Endometrial hyperplasia is considered as precursor of endometrial carcinoma and it is common in late 50s and 60s. Our findings are similar with findings of study by Dangal et al (10.7%).[16]

Another finding that correlate with Dangal et al is atrophic endometrium. In our study atrophic endometrium is (9.80%) while in study with Dangal et al it is (6.0%).[16]

There were many structural cases of AUB, our study found adenomyosis (48.95%) as the most common finding followed by leiomyoma with adenomyosis (30.07%) and leiomyoma (11.18%). These findings are similar to that of Neha G Jagdale et al.[17]

CONCLUSION

Abnormal uterine bleeding is the most common cause of hysterectomy in perimenopausal women. Functional and structural both causes are included in abnormal uterine bleeding. Hormone related changes in endometrium, leiomyoma and adenomyosis is considered as the most common cause. Histopathology is important in each hysterectomy specimen to confirm clinical diagnosis and to rule out endometrial hyperplasia and carcinoma. Histopathological examination aids in further management of the patient.

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