HISTOPATHOLOGICAL PROFILE OF ABNORMAL UTERINE BLEEDING- A TWO-YEAR SINGLE-INSTITUTIONAL STUDY

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ABSTRACT

BACKGROUND

Abnormal uterine bleeding is the leading cause for the Gynaecologist's referral and it accounts for two-thirds of all Hysterectomies. Various causes including structural and non-structural can result in abnormal uterine bleeding. Abnormal uterine bleeding can result in significant morbidity and can interfere with personal and social well-being.

The aim of this study is to evaluate the structural and non-structural causes associated with abnormal uterine bleeding and to study the endometrial patterns among hysterectomy specimens without structural abnormality.

MATERIALS AND METHODS

Hysterectomy specimens of all the patients who presented with complaints of Abnormal Uterine Bleeding were selected and detailed histopathological analysis done. Findings were correlated with clinical symptoms and available investigations. Pregnancy related complications and cases of cervical carcinomas were not included in the study.
Statistical Analysis Used- The data obtained were analysed using SPSS Software Version 17.
Settings and Design- This is a hospital-based descriptive study on 408 hysterectomy specimens conducted at Shanmugha Hospitals and Salem Cancer Institute, Salem, Tamilnadu.

RESULTS

A total of 408 hysterectomy specimens were included in the study. Age group of the patients included in the study ranged from 20 to 80 years with 245 (60.04%) patients between 41 and 50 years. Of 408 specimens, 276 (67.64%) had structural abnormality. Majority in the study group had Leiomyoma, which accounted for 164 (40.19%) cases followed by abnormal uterine bleeding with endometrium in proliferative phase accounting for 84 (20.58%) cases. Remaining histopathological profiles included 24 (5.88%) secretory endometrium, 10 (2.45%) endometrial atrophy, 05 (1.22%) disordered proliferative endometrium, 57 (13.97%) adenomyosis, 35 (8.57%) endometrial polyp, 7 (1.71%) endometrial hyperplasia, 3 (0.7%) endocervical polyp, 2 (0.49%) granulomatous endometritis and 17 (4.16%) endometrial carcinomas.

CONCLUSION

Various structural and non-structural causes are associated with abnormal uterine bleeding. Most common cause associated with abnormal uterine bleeding in our study and institution is Leiomyoma which constitutes for 40.19% with least being Granulomatous Endometritis (0.49%).

KEY WORDS

Abnormal Uterine Bleeding, Hysterectomy, Leiomyoma, Polyp, Adenomyosis, Endometrial Carcinoma.

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BACKGROUND

Cyclical changes which occurs in endometrium is balanced by complex interplay of endogenous steroids and various other factors.[1] Abnormal uterine bleeding is defined as a bleeding pattern that differs either in volume, frequency, duration or in combination of all from pattern that is observed during normal menstrual cycle.[2] Abnormal uterine bleeding is one of the common cause for hospital visit among women of reproductive age group.[3] Abnormal uterine bleeding is associated with various causes, which includes ovarian dysfunction, endometrial causes, coagulopathies, systemic illness, endometrial/ endocervical polyps, adenomyosis, leiomyomas, iatrogenic, endometrial hyperplasias and carcinomas.

This study was done to evaluate various causes associated with abnormal uterine bleeding and to study the endometrial pattern among specimens with no structural abnormality.

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MATERIALS AND METHODS

This is a two years hospital-based single-institutional descriptive study conducted at Shanmugha Hospitals and Salem Cancer Institute, Salem, Tamilnadu. Ethical Committee approval was taken prior to the study. 408 hysterectomy specimens of patients who were clinically diagnosed as abnormal uterine bleeding were selected for the study. Pregnancy related complications and cases of cervical carcinomas were not included in the study. Detailed clinical history and various available investigations including haematological profile, ultrasonography and thyroid profiles were collected. All the received hysterectomy specimens

were fixed in 10% Formalin, processed and 4-5u thickness sections were made and stained with Haematoxylin and Eosin stain. Detailed histopathological examination was done independently by two pathologists and results were analysed using SSPS Software Version 17.

RESULTS

A total of 408 hysterectomy specimens were included in the study. Age group of the patients in the study ranged from 20–80 years with 60.04% of patients between 41 – 50 years and 0.7% of patients between 71 – 80 years. Perimenopausal women were found to be the leading cause for abnormal uterine bleeding constituting about 60.04%. Among 408 hysterectomy specimens, 276 (67.64%) had structural abnormality with remaining being non-structural. 164 (40.19%) cases had Leiomyomas with maximum being multiple. There were 57 (13.97%) adenomyosis, 35 (8.57%) endometrial polyp, 3 (0.7%) endocervical polyp and 17 (4.16%) endometrial carcinomas. Of 35 endometrial polyps, 7 (20%) were leiomyomatous polyp. 8 (1.96%) had leiomyoma and adenomyosis, 4 (0.98%) had leiomyoma and endometrial polyp, 3 (0.73%) had adenomyosis and endometrial polyp and 1 (0.24%) had adenomyosis and endocervical polyp. 84 (20.58%) had abnormal uterine bleeding with endometrium in proliferative phase, 24 (5.88%) were secretory endometrium, 10 (2.45%) had endometrial atrophy, 05 (1.22%) showed disordered proliferative endometrium with 7 (1.71%) cases of endometrial hyperplasia and 2 (0.49%) granulomatous endometritis. All the cases of Endometrial hyperplasia were simple without atypia. Among perimenopausal women, there were 114 cases of leiomyoma which constitutes for 69.51% of total leiomyomas and 46.53% of perimenopausal bleeding. All the causes for abnormal uterine bleeding (except endometrial carcinomas and endometrial atrophy) were maximum among perimenopausal age group which includes 61.90% of proliferative endometrium, 45.83% of secretory endometrium, 64.91% of adenomyosis, 55.26% of polyps and 42.85% of endometrial hyperplasia. Endometrial carcinomas were most common among post-menopausal age group constituting for about 76.47% of endometrial carcinomas. 10 cases (58.82%) of endometrial carcinomas were classified as endometrioid type after histopathological examination.

Histopathological Finding	20-30 Y	31-40 Y	41-50 Y	51-60 Y	61-70 Y	71-80Y	Total
Proliferative Endometrium	02	26	52	04	00	00	84 [20.58%]
Secretory Endometrium	01	11	11	01	00	00	24 [5.88%]
Atrophic Endometrium	00	00	02	06	02	00	10 [2.45%]
Disorderly Proliferative Endometrium	00	00	02	02	01	00	05 [1.22%]
Leiomyoma	02	35	114	13	00	00	164 [40.19%]
Adenomyosis	00	17	37	03	00	00	57 [13.97%]
Endometrial and Endocervical Polyp	00	10	21	03	04	00	38 [9.31%]
Endometrial Hyperplasia	00	01	03	03	00	00	07 [1.71%]
Endometrial Carcinoma	00	01	03	05	05	03	17 [4.16%]
Granulomatous Endometritis	00	01	00	00	01	00	02 [0.49%]
Total	**05**	**102**	**245**	**40**	**13**	**03**	**408**

Table 1. Age-Wise distribution of all the Cases based on Histopathological Diagnosis. [Y- Years, Number of Cases against each category are tabulated along with percentage calculation of Total Number of Cases]

Figure 1 [1A-1F]. 1A. Endocervical Polyp, 1B. Endometrial Polyp, 1C. Leiomyomatous Polyp, 1D. Adenomyosis with Endometrial Polyp, 1E. Intramural Leiomyoma, 1F.Endometrial Carcinoma with Friable growth filling entire Endometrial Cavity

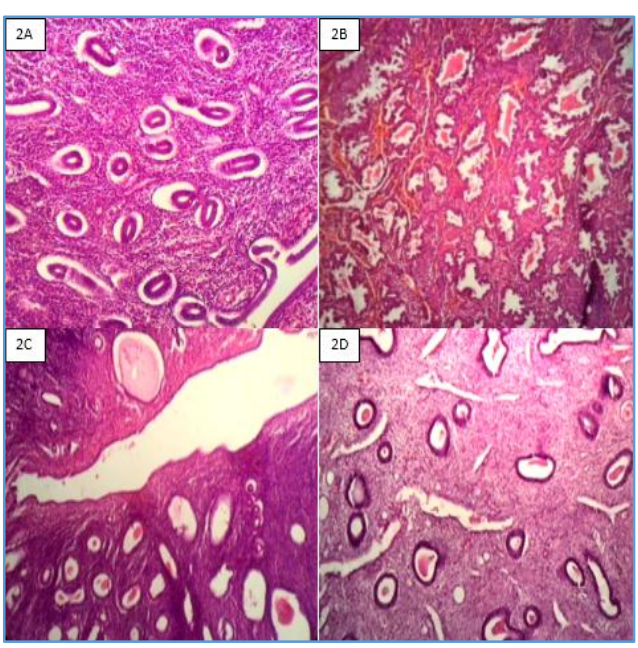

Figure 2 [2A-2D]. 2A. Proliferative Endometrium, 2B. Secretory Endometrium, 2C. Atrophic Endometrium, 2D. Endometrial Polyp [H and E Stain, 10X]

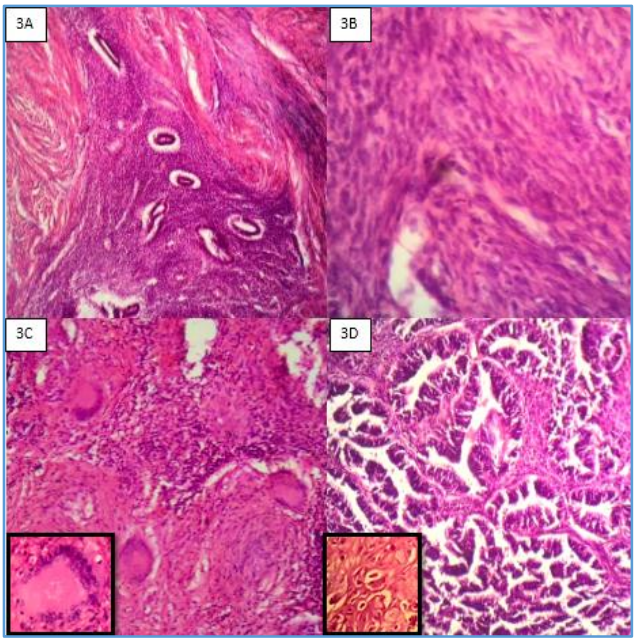

Figure 3 [3A-3D]. 3A. Adenomyosis, 3B. Leiomyoma, 3C. Granulomatous Endometritis (Inset- Langhans Giant Cell), 3D. Endometrial Adenocarcinoma– Endometrioid Type– Grade II (Inset– Squamous Morule) [H and E Stain, 10X]

DISCUSSION

Abnormal uterine bleeding is one among most important clinical entity, which affects 14 - 25% of women of reproductive age[4,5] with significant impact on physical, social, emotional and material quality of life.[6] The most common aetiologies associated with abnormal uterine bleeding are leiomyomas, endometrial polyps, adenomyosis, anovulation, disorders of haemostasis and neoplasia.[7,8] In this study, 60.04% of patients were between 41 – 50 years (perimenopausal). This is comparable to study conducted by Anjali Singh et al[9] and Dadhania et al.[10] The relationship between abnormal uterine bleeding and leiomyomas remains unclear. Various causative mechanism includes alteration in plasminogen modulators, increased level of matrix metalloproteinases, alteration in vasoactive substances and impact on angiogenesis. Most common cause associated with abnormal uterine bleeding in this study is Leiomyoma (40.19%). This is similar to study conducted by Gorla P et al[11] and Bolde SA et al.[12] The contribution of polyps to abnormal uterine bleeding is widely accepted.[13] According to Dreisler E et al[14] and Preutthipan S et al,[15] contribution of polyps to abnormal uterine bleeding ranges from 3.7% - 65%. In our study 8.57% were endometrial polyp, of which 20% were leiomyomatous polyp. According to Usha GD et al,[16] 9.4% of cases were adenomyosis. In this study, 13.97% were adenomyosis. This variation may be due to more number of cases in our study. Among non-structural causes, maximum number of cases (20.58%) had abnormal uterine bleeding with endometrium in proliferative phase followed by secretory endometrium (5.88%). This is comparable to study conducted by Usha GD et al. In our study, 1.71% were endometrial hyperplasia which is comparable to study conducted by Shrestha et al. 4.16% of cases were endometrial carcinomas and 76.47% of endometrial carcinomas were among postmenopausal women, which was similar to study conducted by Dangal G et al.

CONCLUSION

According to our study, which was conducted among 408 hysterectomy specimens, abnormal uterine bleeding was found most commonly among perimenopausal women and leiomyoma was the leading cause of abnormal uterine bleeding. Endometrial carcinomas occur predominantly among postmenopausal women. Among non-structural causes, predominant pattern was abnormal uterine bleeding with endometrium in proliferative phase followed by secretory pattern. As there is increased incidence of endometrial carcinomas among postmenopausal women, all the postmenopausal women presenting with abnormal uterine bleeding should be evaluated thoroughly with additional caution.

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