

Original research article

STUDY OF MEDICAL MANAGEMENT OF AUB CASES IN RESPECT WITH PALM COEIN CLASSIFICATION AT TERTIARY CARE CENTER

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Abstract

Introduction: Abnormal uterine bleeding (AUB) is the most common problem among patients coming to gynaecology outpatient department. There are various pathologies which can lead to AUB. History, blood investigations, ultrasonography, hysteroscopy and endometrial aspiration are the methods to rule out different causes. Later on, they are classified as per PALM-COEIN classification. It helps in better and successful management of AUB patients.

Material and Methods: This prospective interventional study was carried out in the Department of obstetrics and gynaecology, in our institute enrolling 300 consenting subjects having AUB coming to outpatient department and in doored to gynaecology ward of our tertiary care hospital. Subjects with confirmed diagnosis of abnormal uterine bleeding as per "PALM- COEIN" classification and on ultrasonography, fulfilling the criteria and ready to follow up were enrolled in the study. The final medical treatment assigned to the patients depending upon aetiology (PALM-COEIN classification), age of the patient, desire of fertility and options available. Different medical treatment options like LNG-IUS (MIRENA), ormeloxifene (SERM), progesterone only pills, OC pills, tranexamic acid were given to the patients in this study for treatment of AUB.

Results: In our study, out of 300, total 121 (40.3%) study participants were given ormeloxifene, 65 (21.7%) were offered OC pills, 60 patients (20.0%) given LNG-IUS (MIRENA), 44 patients (14.7%) were treated with Progesterone and 10 (3.3%) study participants were medically treated with tranexamic acid. Subjects were followed every monthly for initial 3 months of treatment, followed by 6 monthly up to 1 ½ year of treatment. In every follow up PBAC score, Haemoglobin level, endometrial thickness and quality of life (QoL) score was done to assess effectiveness of medical treatment assigned to patients. In our study out of 284 subjects who completed medical treatment for AUB, 72% subjects achieve normal menses, 14.3% subjects had scanty menses & 25(8.3%) subjects developed amenorrhoea. 2.7% subject loss follow up and 2.7% subjects underwent hysterectomy out of which 8 subjects removed LNG-IUS and opted for hysterectomy within 6 months of treatment.

Conclusion: Classification of AUB as per PALM-COEIN helps in better understanding of disease and successful management of patients. Medical management is found very effective in treatment of AUB so that unnecessary hysterectomies and morbidity associated to it can be avoided.

Keywords: Abnormal uterine bleeding (AUB), PALM-COEIN, Medical management.

Introduction

Menstrual cycle is the physiological phenomenon, consisting of cyclical shedding of endometrium, occurring on an average of 28±7 days in every woman's life in response to hormones during their reproductive years. An average blood loss of 50 ± 30 ml occurs in every menstrual cycle which lasts for about 5 days, accounting to around 67 months of menstrual bleeding over a lifetime of a female(1). Menstrual cycle is a determinant of women's health (2). The production of hormones from hypothalamus (gonadotropin-releasing hormone), pituitary (follicle stimulating hormone and luteinizing hormone) and ovaries (progesterone and androstenedione, etc.) are regulated by positive and negative feedback mechanisms. The interaction and the levels of these hormones regulate the duration and regularity of the menstrual cycles (1, 3). The increased levels of stress can affect the hormonal milieu, thereby affecting the menstrual cycles (3). Abnormal uterine bleeding (AUB) is a symptom and not a disease. AUB is an overarching term used to describe any departure from normal menstruation or from normal menstrual cyclic pattern. The key characteristics are regularity, frequency, heaviness and duration of flow but each of these may exhibit considerable variability (4) Uterus is the epitome of womanhood. Abnormal uterine bleeding (AUB) can affect 1/3rd of women if child bearing age and is one of the most common gynaecological symptoms encountered on a day to day basis(5). In India the reported prevalence of AUB is 17.9 % (6) Menorrhagia affects 10%-30% of menstruating women at any one time and may occur in perimenopausal transit phase in up to 50% of women (5, 7, 8). Over 75,000 hysterectomies are carried out every year with 30% of them being done for menstrual disturbance, especially menorrhagia (9). AUB, a common problem of women in reproductive age is responsible for 20% of gynaecologic visits. Abnormal uterine bleeding manifests by a wide variety of bleeding problems like excessive or scanty bleeding, short or prolonged bleeding, frequent or infrequent bleeding, and it is typically random and unpredictable (10,11,12). Approximately 90% cases of AUB are secondary to anovulation leading to inadequate levels of progesterone and deformation of corpus luteum (13). Under the effect of unopposed oestrogen there is unimpeded proliferation of endometrium. The overgrown endometrial lining finally overgrows its blood supply leading to heavy bleeding (14, 15). To standardize nomenclature of AUB a new system known by the acronym "PALM-COEIN" was introduced in 2011 by "International Federation of Gynaecology & Obstetrics (FIGO)". There are 9 categories of aetiology of AUB, which include structural and non-structural causes (16). Abnormal uterine bleeding (AUB) may be acute or chronic and is defined as bleeding from the uterine corpus that is abnormal in regularity, volume, frequency, or duration and occurs in the absence of pregnancy. Acute AUB refers to an episode of heavy bleeding that, in the opinion of the clinician, is of sufficient quantity to require immediate intervention to prevent further blood loss. Acute AUB may occur spontaneously or within the context of chronic AUB (abnormal uterine bleeding present for most of the previous 6 months). For AUB, Medical Management is the first therapeutic option followed by minimally invasive procedures like endometrial ablation, Hysterectomy is the last resort. The medical options for initial management of AUB includes antifibrinolytics, nonsteroidal anti-inflammatory drugs(NSAIDs), combined oestrogen and progesterone's or progesterone alone

,high dose oestrogens, gonadotropin releasing hormone analogues, anti- gonadotropins such as danazol and levonorgestrel releasing intrauterine system(LNG- IUS),Selective oestrogen receptor modulator(SERM). Nonsteroidal Anti-inflammatory drugs (NSAIDS) decreases both normal menstrual bleeding and the increased bleeding associated with an intrauterine device. It reduces menstrual blood loss by approximately 20-40% and to greater extent in those with heavy menstrual bleeding. Tranexamic acid is an antifibrinolytic drug that has proven effective for HMB in clinical use. It has been used to treat HMB for over four decades in many European countries. Tranexamic acid significantly improves the quality of life of women treated for HMB. The recommended oral dosage is 3.9–4 g/day for 4–5 days starting from the first day of the menstrual cycle. Ormeloxifene (centchroman or 3,4,-trans-2,2-dimethyl-3-phenyl-4-p-(b pyrrolidinoethoxy)-phenyl- 7-methoxy chroman) is a non-steroidal, selective oestrogen receptor modulator (SERM). The present prospective study was designed to assess the efficacy and safety of ormeloxifene in medical management of AUB due to leiomyoma. The role of Levonorgestrel intrauterine system (LNG-IUS) in AUB is well establishes and is now considered to be reference treatment in medical management but its cost limits its widespread use. Mirena is a hormonal intrauterine device classified as a long-acting reversible contraceptive method. The device releases the hormone at an initial rate of 20 g/day and declines to a rate of 14 g after 5 years, which is still in the range of clinical effectiveness. [2, 3] Hormonal actions are caused by the levonorgestrel component. The LNG-IUS therapy is effective and safe, providing significant reduction of menstrual bleeding in patients with HMB and can be considered over surgery. Combined OCs and oral progestin's, taken in multi-dose regimens, also are commonly used for acute AUB. Abnormal uterine bleeding is defined as bleeding from uterine corpus that is abnormal in regularity, volume, frequency or duration in the absence of pregnancy (17).

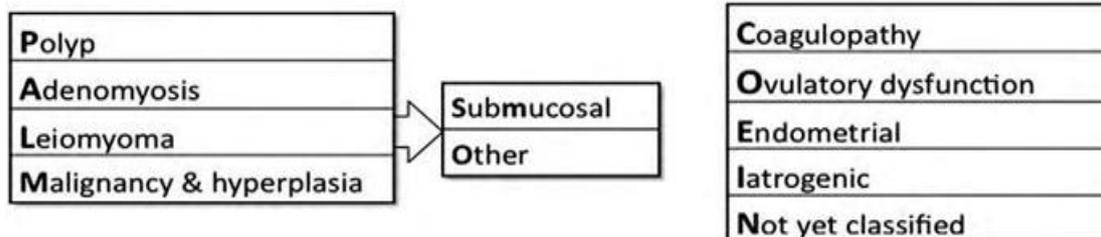
To standardize nomenclature of AUB, a new system known by acronym “PALM- COEIN” was introduced in 2011 by the International Federation of Gynaecology and Obstetrics (FIGO) and adopted by the American College of Obstetricians and Gynaecologists (ACOG) (24). It was an effort to create a universally accepted system of nomenclature to describe uterine bleeding abnormalities in reproductive-aged women.

PALM describes structural causes of AUB which are as follows:

P-Polyp, A – Adenomyosis, L - Leiomyoma, M - Malignancy and Hyperplasia

COEIN describes non structural causes of AUB which are as follows:

C – Coagulopathy, O - Ovulatory disorders E - Endometrial factors I – Iatrogenic, N - Not classified



Abnormal uterine bleeding affects 10 to 30 % of reproductive-aged women and up to 50 % of perimenopausal women. Factors that influence the incidence most greatly are age and reproductive status.

Aims and Objectives:

Primary objective: To assess the decrease in menstrual blood loss by applying different medical methods.

Secondary objectives:

- 1) To assess increase in haemoglobin level
- 2) To assess change in endometrial thickness
- 3) To assess improvement in Quality of life (QOL)
- 4) To study the outcome in terms of different medical managements in subjects with different types of AUB (PALM-COEIN).

Material and Methods

Prospective interventional study was done in Department of obstetrics and gynaecology, tertiary care hospital during November 2018 to May 2020. Sample size was 300. Study protocol was approved from the Institutional Ethics committee. **Informed consent** -A written informed valid consent was taken from either or both and/ or care taker of patient in specially designed consent form.

Inclusion criteria:

1. All the women's attending Gynac clinic presenting with AUB.
2. Age group between 12-50 years

Exclusion criteria:

1. Pregnancy and pregnancy related conditions.
2. Women's <12 years & >50 years.
3. Women's with postmenopausal bleeding.
4. Girls with precocious puberty.
5. Malignancy with atypia on histopathology.
6. Fibroid >3 cm and no>3
7. Endometrial polyp >1 mm

Patients coming to OBGY OPD with complaining of heavy menstrual bleeding were screened. Subjects with confirmed diagnosis of abnormal uterine bleeding as per "PALM-COEIN" classification and on ultrasonography, fulfilling the criteria and ready to follow up were enrolled in the study. A detailed history was obtained with regard to age, parity, age of menarche, time since bleeding starts, duration and frequency of menstrual cycle. Menstrual blood loss was assessed with PBAC score by asking about number of soakage of pads and passage of clots. The patients were educated to calculate PBAC score. . Different Questionnaire asked to patients to evaluate Quality of life (QOL) affected by Aub and given score out of 10. With every follow-up, PBAC Score and QOL Score were assessed. A thorough clinical examination including general physical examination, built, nutritional status and bimanual pelvic examination was done. Investigations like Haemoglobin, complete blood count, Liver function test, Kidney function test, Thyroid function test, Pelvic ultrasound for fibroid size, endometrial thickness was done. Pap smear to rule out cervical pathology, endometrial biopsy to rule out endometrial malignancy written consent was taken of subjects selected and the patients were categorized as per PALM COEIN Classification of AUB. The

different medical treatment options like LNG-IUS, Ormeloxifene(SERM),progesterone only pills, OC Pills, Tranexamic acid were given to patients and counselling done regarding efficacy and side effect of drug. The final medical treatment assigned to the patients depending upon aetiology (PALM-COEIN classification), age of the patient, desire of fertility and options available. Tablet ormeloxifene 60 mg biweekly for 3 months, followed by 60mg weekly for next 3 months was prescribed. Subjects were assessed after 3 months of treatment. Compliance was checked by empty packets of drug. PBAC score, hemoglobin level, endometrial thickness and fibroid size by TVS were noted. Subjects were asked for any side effects, improvement in symptoms, if patient is compliant and ready to continue the treatment were allowed to continue the tab ormeloxifene 60 mg once a week for next 3 months. All subjects were followed up for period of 6 months. For symptomatic treatment (like tranexamic acid, NSAIDS) along with tab ormeloxifene was prescribed to subjects during course of treatment. LNG-IUS (MIRENA) was inserted to the subjects with proper aseptic precautions on OPD basis. PBAC scoring done in front of them so that they could learned it and maintain it Uterine Fibroid, polyp was diagnosed with abdominal ultrasonography by radiologist. Patient with fibroid size <3cm & no<3 & polyp<1mm included in study and given medical treatment. The patient with Endometrial thickness >12mm with severe anaemia were admitted given blood transfusion and posted for D & C with Mirena insertion. Endometrial biopsy was taken with help of endometrial biopsy curette in same sittings and send for HPE. After HPE report, patients were started with tab ormeloxifene 60 mg biweekly for 3 months. Subjects were asked to maintain PBAC score on PBAC graph provided to patient on starting of treatment. Subjects were followed every monthly for initial 3 months of treatment. , followed by 6 monthly up to 1 ½ year of treatment. Clinical examination was done and history taken for wellbeing of patient and any obvious side effect of drug if occurred. Haemoglobin by CBC (Complete Blood Count), endometrial thickness by USG- TVS at gynaecology OPD was done, PBAC score reviewed. If patient not responding to medical line of management treated as failure case and posted for hysterectomy depending upon final diagnosis.

PBAC score- Pictorial Blood Loss Assessment score-

It is semi quantitative measurement tool validated for diagnosing. HMB Women are instructed to count their number of used towels or tampons each day and then divide them by level of soiling. The chart is scored using the scoring system devised by Higham et al. scores are given according to soakage of pad/tampons details of which given . Pawar et al investigate impact of HMB measured by PBAC score on quality of life (QoL) and found higher the PBAC score lower the QoL .The PBAC Score was initially validated by Higham et al. With the PBAC-Score the women can capture the number of pads or tampons and also state the intensity through the assessment of the drenching (18). The PBAC score is a simple and accurate tool for semi objective of MBL that can be used in clinical practice to aid the decision about treatment and follow-up.

Quality of life (QoL) Score-

Major impact of abnormal uterine bleeding is on women's quality of life. The self-assessment questionnaire was prepared based on patient's history, symptoms & severity, in which different 10 questions were asked to assess quality of life affected by AUB in each follow up. Total 10 score is given.

Statistical analysis-

Data was collected and analysed in statistical software, epi info .7.2.2.2. Distributive analysis like mean & SD were calculated to summarise quantitative variables. Frequency and

percentage were calculated, summarised categorical variables. Indifference statistics included tests of effects on various parameters. Paired t test was used to compare pre and post mean difference while chi square test was used to compare different proportion. P value < 0.05 consider statistically significant for all comparison.

Results

Out of 300 participants, total 107(35.66 %) participants were belonging to age group of 40 to 50 years, followed by 100 (33.33%) participants reported from 30 to 40 years of age group. Least number of participants i.e. 33(11.0 %) were reported in age group of 10 to 20 years. Out of 300 participants, total 96 (32 %) participants were P4,90(30%) participants were belonging to P3 group,70(23.33%) participants belonging to P2 group and 24(8.0%)participants belonging to P1group while only 20(6.66%) were reported nulliparous. Out of 300 participants, total 210 (70.0 %) participants were belonging to rural area and 90 (30.0%) participants from urban area. Out of 300 participants, total 79 (26.3 %) participants were belonging to AUB –L group according to FIGO classification. It was followed by AUB – A group with 72 (24.0%) study participants. Minimum of 10 (3.3%) study participants were reported from both AUN – N and AUB – P groups.

Table 1: Distribution of study participants according to type of treatment given (N=300)

Outcome	Number of Participants (N)	Percentage (%)
Ormeloxifene	121	40.3
OC Pills	65	21.7
LNG-IUCD	60	20.0
Progesterone	44	14.7
Tranexamic Acid	10	3.3
Total	300	100.0

Out of 300 participants, total 121 (40.3 %) study participants were given ormeloxifene, 65 (21.7%) were offered OC pills, 60 (20.0%) opted LNG-IUCD, 40 (14.7%) were treated with Progesterone and 10 (3.3%) study participants were medically treated with tranexamic acid.

Table 2: Distribution of study participants according to type of treatment given in AUB-A (N=72)

Drugs	Hb (PreTx)	Hb (PostTx)	PBAC (PreTx)	PBAC (PostTx)	ET (PreTx)	ET (PostTx)	QoL (PreTx)	QoL (PostTx)
SERM (32)	7.0	10.73 ± 0.46	185	40	4.5 ± 0.69	2.38 ± 0.48	8	10
OC Pills (3)	7.0	10.9 ± 0.36	140	50	5.0 ± 1.24	2.93 ± 0.7	7	10
Progesteron e (11)	6.9 ± 0.03	10.64 ± 0.69	180	35	5.53 ± 1.37	2.83 ± 0.64	8	10
LNG-IUD (21)	7.0	10.38 ± 0.52	184	37	5.73 ± 1.41	2.94 ± 0.4	7	10
Tranexaemi c Acid (5)	7.0	10.52 ± 0.78	134	50	6.06 ± 1.71	2.88 ± 0.28	7	10

Out of 72 participants from AUB-A group, mean ± standard deviation of pre-treatment and post treatment values are compared in this table.

Table 3: Distribution of study participants according to type of treatment given in AUB-E (N=64)

Drugs	Hb (PreTx)	Hb (PostTx)	PBAC (PreTx)	PBAC (PostTx)	ET (PreTx)	ET (PostTx)	QoL (PreTx)	QoL (PostTx)
SERM (10)	7.0± 0.17	10.65 ± 0.62	184	30	19.27± 1.75	5.7± 1.58	7	10
Progesterone (25)	7.0	10.39 ± 0.64	180	45	19.73± 2.1	6.95± 1.34	6	10
LNG-IUD (28)	7.0	10.5± 0.69	180	50	20.42± 2.3	7.24± 1.68	7	10
Tranexamic Acid (1)	7.0	10.25 ± 0.35	150	45	19.5 ± 0.7	7.5 ± 0.7	7	10

Out of 64 participants from AUB-E group, mean ± standard deviation of pre-treatment and post treatment values are compared in this table

Table 4: Distribution of study participants according to type of treatment given in AUB-L (N=79)

Drugs	Hb (PreTx)	Hb (PostTx)	PBAC (PreTx)	PBAC (PostTx)	ET (PreTx)	ET (PostTx)	QoL (PreTx)	QoL (PostTx)
SERM (71)	7.0	10.5 ± 0.26	284	50	6.3 ± 1.69	3.18 ± 0.48	8	10
OC Pills (01)	7.0	10.4 ± 0.26	200	50	4.0 ± 1.14	3.93 ± 0.7	7	10
Progesterone (06)	7.0	11.2	180	35	3.43 ± 1.25	2.83 ± 0.24	8	10
LNG-IUD (01)	7.0	10.5 ± 0.54	184	40	4.73 ± 1.22	2.94 ± 1.41	7	10

Out of 79 participants from AUB-L group, mean ± standard deviation of pre-treatment and post treatment values are compared in this table.

Table 5: Distribution of study participants according to type of treatment given in AUB-O (N=65)

Drugs	Hb (PreTx)	Hb (PostTx)	PBAC (PreTx)	PBAC (PostTx)	ET (PreTx)	ET (PostTx)	QoL (PreTx)	QoL (PostTx)
OC Pills (61)	7.0±0.15	10.67 ± 0.54	188	40	5.5 ± 0.69	2.77 ± 1.48	8	10
LNG-IUD (04)	7.0	11.2	190	50	5.8 ± 1.14	3.93 ± 0.7	7	10

Out of 65 participants from AUB-O group, mean ± standard deviation of pre-treatment and post treatment values are compared in this table.

Table 6: Distribution of study participants according to type of treatment given in AUB-P (N=10)

Drugs	Hb (PreTx)	Hb (PostTx)	PBAC (PreTx)	PBAC (PostTx)	ET (PreTx)	ET (PostTx)	QoL (PreTx)	QoL (PostTx)
SERM (08)	7.0	10.57 ± 0.52	184	50	6.5 ± 2.69	3.17 ± 1.18	8	10
LNG-IUD(02)	7.0	10.2	190	40	5.8 ± 1.34	3.23 ± 1.54	8	10

Out of 10 participants from AUB-P group, mean ± standard deviation of pre-treatment and post treatment values are compared in this table.

Table 7: Distribution of study participants according to type of treatment given in AUB-N (N=10)

Drugs	Hb (PreTx)	Hb (PostTx)	PBAC (PreTx)	PBAC (PostTx)	ET (PreTx)	ET (PostTx)	QoL (PreTx)	QoL (PostTx)
LNG-IUD(04)	6.8	10.39 ± 0.44	184	40	6.3 ± 1.69	3.18 ± 0.48	6	10
Tranexamic acid(04)	7.0	10.25 ± 0.25	200	50	5.0 ± 1.14	3.93 ± 0.7	7	10
Progesterone (02)	7.0	11.2	180	45	5.43 ± 1.25	2.83 ± 0.24	8	10

Out of 10 participants from AUB-N group, mean ± standard deviation of pre-treatment and post treatment values are compared in this table.

Table 8: Distribution of study participants according to outcome of treatment (N=300)

Outcome	Number of Participants (N)	Percentage (%)
Amenorrhoea	25	8.3
Hysterectomy	8	2.7
Loss of follow up	8	2.7
Normal menses	216	72.0
Scanty menses	43	14.3
Total	300	100.0

Out of 300 participants at the end of the treatment, total 216 (72 %) study participants had normal menses, while 43 (14.3%) had scanty menses. A group of 25 (8.3%) study participants had amenorrhea at the end of treatment. There were 8 (2.7%) participants who lost to follow up and same number of participants were undergone hysterectomy.

Discussion

In this prospective interventional study, 300 subjects were recruited. Out of 300 participants, total 107 (35.66 %) participants were belonging to age group of 40 to 50 years, followed by 100 (33.33%) participants reported from 30 to 40 years of age group. Least number of participants i.e. 33 (11.0%) were reported in age group of 10 to 20 years. Out of total, majority of patients in our study 96(32%) & 90(30%) were belonging to parity 3 and grand parous respectively. Similar study conducted by Usha GD et al, where majority of women 34.11% & 25.8% of parity 3 and grand multiparous respectively which is corresponding to our study. (19) In our study AUB-L was found to be most frequent cause of chronic AUB, accounting for 79 (26.3%) cases. AUB-A was found in 72(24.0%) women, AUB-O in 65(21.7%) women, AUB-E in 64(21.3%) women, AUB-P in 10(3.3%) women & AUB-N in 10 (3.3%) women. AUB-O is the most common cause of AUB among non-structural causes followed by AUB-E.

Uterine fibroid (AUB-L) is the most common cause among structural causes followed by uterine adenomyosis (AUB-A). Similar study conducted in 2017 by ESIC Medical College, Faridabad, Haryana, India, the maximum number of AUB cases according to the PALM-COEIN classification belonged to the category AUB-L (30%) closely followed by AUB-A (29.66%) overall. Among the functional causes, ovulatory disorders (AUB-O) were the most common (26.66%) followed by endometrial (AUB-E) causes (15%). (20) The final medical treatment assigned to the patients depending upon aetiology (PALM-COEIN classification), age of the patient, desire of fertility and options available. In our study, out of 300, total 121 (40.3 %) study participants were given ormeloxifene, 65 (21.7%) were offered OC pills, 60

patients (20.0%) given LNG-IUCD, 44 patients (14.7%) were treated with Progesterone and 10 (3.3%) study participants were medically treated with tranexamic acid. Out of 300 participants, total 284 (94.66 %) study participants completed treatment while 16 (5.33%) did not completed the particular treatment. In our study total PBAC score is taken in consideration which includes passage of clots along with number of pad soaked in a menstrual cycle, so improvement in PBAC score is calculated.

However there was decreased or relieved of clots passage during treatment course. In our study PBAC score before treatment was 186.11 which is reduces to 47.67 with statistically significant ($p < 0.0001$). Similar result seen in a study done by Mandira et al, (21) mean PBAC score before treatment was 184.41 which reduces to 83.77 post treatment with statistically significant ($P < 0.001$).

During the study period, Mean haemoglobin increases on comparing mean haemoglobin before treatment mean = 7.007, (SD=0.908) and at the end of treatment mean haemoglobin = 10.572, (SD=0.4424) found to be statistically significant P value = 0.0001. While comparing mean haemoglobin after 6 months of treatment (mean = 10.057, SD=0.4612), p value was found to be statistically significant. With mean haemoglobin increase by 3.05 gm%. In a study by Uma Pande et al rise in haemoglobin (from 7.2 to 9 gm/dl), with increase in mean haemoglobin by 1.38 gm/dl which is found statistically significant ($p < 0.001$) (22). During the study period, endometrial thickness was measured at the starting of treatment, after 3 Months, 6 months of treatment and at the end of treatment. In our study, the mean of endometrial thickness at the start of treatment was 9.517 cm, with treatment it decreases to 3.915 cm, which was found statistically significant ($p < 0.0001$). In study conducted by Agrawal et al, the mean pre-treatment endometrial thickness was 11.35 mm with a range of 8-17 mm. It was reduced to 9.4 mm after 3 months of therapy (range 6- 13 mm; $p < 0.0001$) and to 8.13 mm after 6 months (range 4-11 mm; $p < 0.0001$). The reduction was statistically significant (23).

In our study we have used self-assessment questionnaire (SAQ) method to assess quality of life. In our studies, it is seen that quality of life score at start of therapy score = 7.13 which was found to be increased progressively at the end of treatment mean = 9.89. When paired T test was applied to the QOL at start of study and subsequent follow-ups, it was noted that quality of life was increasing at every follow up and the association was found to be highly significant ($P < 0.0001$). In our study out of 284 (94.66%) subjects who completed treatment, 216 (72%) subjects achieve normal menses, 43 (14.3%) subjects had scanty menses & 25 (8.3%) subjects developed amenorrhoea. 8 (2.7%) subject loss follow up and 8 subjects underwent hysterectomy out of which 6 subjects removed LNG-IUS and opted for hysterectomy with 6 months of treatment.

Conclusion

Abnormal Uterine Bleeding (AUB) is the common problem among women in the reproductive age, is responsible for significant health problem & social embarrassment & is the common reasons women seek health care. To avoid the morbidity associated with hysterectomy, medical management should be preferred. The different drugs used for treatment of AUB like Ormeloxifene (SERM), LNG- IUS, Antifibrinolytics, progesterone alone, combined oral contraceptive etc. each one having excellent role in reducing menstrual blood loss, improving anaemia, reducing endometrial thickness & thereby improving quality of life by prevents morbidity associated with unnecessary hysterectomy done for AUB. LNG-IUS (MIRENA) should be 1st choice in management of AUB-E, AUB-A AUB-N cases as it

has excellent role in reducing menstrual blood and help in improve anemia. It is very good alternative for women who have HMB and desire contraception. Ormeloxifene (SERM) is efficacious in management of AUB-L cases. It is good option for adolescents and women in the perimenopausal age group. However, its role as the sole medical method in fibroid management needs to be assessed by more studies in future. SERM is also effective in management of AUB-A, AUB-E, AUB-L, AUB-N.

Both Progesterone and OC Pills were found to be equally effective in reduction of blood loss in AUB, can be use in PALM COEIN group of AUB. Tranexamic acid is very effective in acute AUB, found to have excellent role in symptomatic management of acute blood loss in AUB patients.

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