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COMPARATIVE STUDY OF PROGESTERONE AND SELECTIVE PROGESTERONE RECEPTOR MODULATOR IN TREATMENT OF FIBROIDS

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ABSTRACT
Uterine fibroids (UF), also known as Leiomyoma, are the most common benign neoplasm in the female genital tract and originate from the myometrium (smooth muscle.)[1,2] The cause of the fibroids is unknown, but however, it is estimated to be caused by estrogens and progesterone which proliferate tumor growth.[3,4] Fibroids are seen to rarely occur before menarche and reduce after menopause. They may be single or multiple and have a negative impact on the reproductive system, and are capable of causing severe morbidity among the women with deterioration of quality of life.[5]

KEYWORD: Uterine fibroids (UF).

INTRODUCTION
It is known that 20% - 50% of women in this age group suffer from this disease. 54 to 77% of women have myomas, depending on the study population and races of the population.[6] It is seen that in USA, the prevalence of the uterine fibroids was 60% at the age of 35, which increased to more than 80% by the age of 50 years among the African American women. However, the incidence was observed to be lesser in Caucasian women, where the incidence was 40% by age 35, and almost 70% by age 50.[7] The data was similar in Italy, while the incidence was lower among the Swedish women.[8,9]About 20% to 80% of women develop fibroids by the age of 50. In 2013, it was estimated that 171 million women were affected worldwide[10] they are typically found during the middle and later reproductive years. In India, the incidence was found to be higher in Rural India affecting 37.65% whereas about 24% population were affected in Urban India, both predominant in the premenopausal age groups.

Risk factors for developing fibroids such as Age, early age at menarche, reduced fertility, frequent alcohol and caffeine consumption, obesity, consumption of red meat, hypertension, diabetes mellitus, previous pelvic inflammatory disease and genetics have been observed.

The uterine myomas are classified into three categories according to their anatomical location:
Submucous fibroids, located below the endometrium (occasionally, they develop pedicles or even completely occupy the uterine cavity).

Interstitial / Intramural fibroids located within the uterine wall. Subserous fibroids, located in the serosal surface of the uterus.

Most fibroids do not require treatment unless they are causing symptoms. After menopause, fibroids shrink, and it is unusual for them to cause problems.

In those who have symptoms, uterine artery embolization and surgical options have similar outcomes with respect to satisfaction.[11]

A number of medications may be used to control symptoms. NSAIDs can be used to reduce painful menstrual periods. Oral contraceptive pills may be prescribed to reduce uterine bleeding and cramps.[9] Anemia may be treated with iron supplementation.

Ulipristal acetate is a synthetic selective progesterone receptor modulator (SPRM) that has tentative evidence to support its use for presurgical treatment of fibroids with low side- effects.[12] Long-term UPA-treated fibroids have shown volume reduction of about 70%[13]There are many modes of treatment for the fibroids both medical and surgical but the purpose of the study is to find out which among Medroxy progesterone acetate (MPA) and ulipristal acetate (UPA) is best for the

treatment of fibroids as there are very few studies done on it.

Considering the current burden of fibroids which the gynaecologist face during their practice and different modalities available for the treatment of fibroids a very few studies have been done to know which among Medroxyprogesterone Acetate and Ulipristal acetate is better. Hence, a hospital based study has been carried out in OPD of department of Obstetrics and Gynecology, Deccan College of medical sciences to follow up the patients on this treatment and know their responses in relieving of symptoms. Ulipristal Acetate, 5mg, once daily dose is effective in decreasing menstrual blood loss, reducing fibroid volume and pain in women with symptomatic uterine fibroid. But a large study is still required to prove and confirm its safety. In case of repeated, intermittent, long treatment, periodic monitoring of endometrium is recommended.

The ultimate purpose of the study is to assess better option for treatment of fibroids and also to find out the side effects occurring by both medications.

Aim of the study

1) To determine the best between Medroxy Progesterone Acetate (Progesterone) and Ulipristal Acetate (Selective Progesterone Receptor Modulator) in the medical management of fibroids.

Objectives of the study

1) To determine the effectiveness of Medroxy progesterone Acetate(MPA) and Ulipristal Acetate(UPA).
2) To determine the side effects of MedroxyprogesteroneAcetate (MPA) and Ulipristal acetate (UPA).
3) To relieve the patients from symptoms of fibroids.
4) To decrease the burden of surgical procedures in patients with symptomatic fibroids.
5) To decrease the size of fibroid in patients awaiting surgery.

Patients & methods

Study area

The following study is a hospital based prospective study carried out in the Department of Obstetrics &Gynaecology for a period of 18 months from 1st January 2018 to June 2019 at Owaisi Hospital and Research Centre and Princess Esra Hospital, a tertiary care centre, Deccan College of Medical Sciences, Hyderabad.

Sample size

A total of 70 patients aged between 20 to 45 yrs were selected in the study after taking Inclusion and Exclusion criteria into consideration. 35 patients were subjected to Medroxy Progesterone acetate (MPA) and other 35 patients were subjected to Ulipristal acetate (SPRM) for medical management of fibroids.

Inclusion criteria

1. Patients with symptomatic fibroids between 20 to 45 years of age.
2. Patients with Intramural and submucosal fibroids as evidenced by ultrasonography.
3. Patients with fibroid 3-5cm size as evidenced on Ultrasonography.
4. Single fibroid.
5. Women who gave written informed consent for study.

Exclusion criteria

1. Pregnant or lactating women
2. Allergic or sensitive to any of these 2 drugs.
3. Patients with subserosal type of fibroids as evidenced on Ultrasonography.
4. Patients with fibroid >5 cm size as evidenced on ultrasonography.
5. Patients with Heart disease, renal disease, liver disease, Bronchial asthma or a proven case of tuberculosis.
6. Patients with breast cancer, endometrial cancer, ovarian or cervical cancer.

METHODOLOGY

A prospective study was carried out in Department of Obstetrics and Gynaecology from 1st January 2018 to June 2019 at Owaisi Hospital and Research centre and Princess Esra Hospital, a tertiary care centre (Deccan college of Medical sciences, Hyderabad).

A total of 35 patients in Group A (Medroxyprogesterone acetate 10mg) and 35 patients in Group B (Ulipristal acetate 5mg) were included in the study after considering inclusion and exclusion criteria. Out of 35 patients in Group A for the study, 3 patients did not wish to continue, 2 patients did not come for follow up, and so only 30 patients who came for follow up visit were analyzed.

Out of 35 patients included in Group B, 3 patients did not come for follow up. Andother 2 left the study. A total of 30 patients who came for follow up were analyzed. First visit was at the time when they came to the OPD(O visit) and those patients were followed after a month(1st visit) then were called in 3rd month(2nd visit) and followed in 6th month(3rd visit) and the response of the patients were noted.

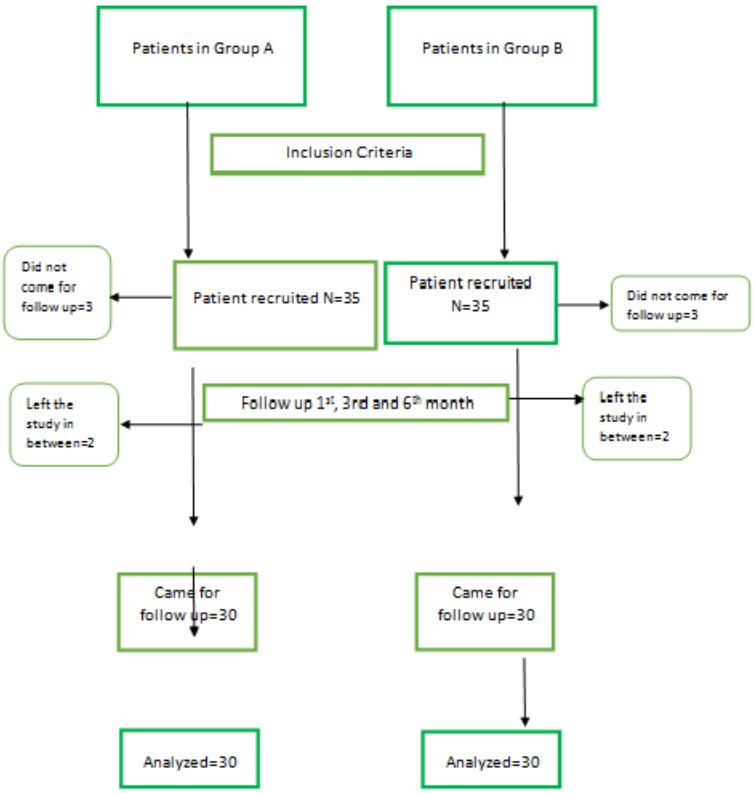

Figure no 5: Flow diagram of selection process.

Tools for data collection

A questionnaire was designed for data collection after systematic review of published studies. The questionnaire was initially designed in English and then translated in local languages (Urdu and Telugu) with the help of translator. The final version of questionnaire consisted of 3 parts:

1. **General details of patients.**
2. **Past history and present patient status of symptoms.**
3. **Clinical examination and ultrasonography findings.**

Data collection/interview

Before starting interview patients were explained the purpose and objective of study in local language. There after they were asked for the written informed consent (annexure-). Whenever in doubt about the age of participants, we asked them to show the proof for date of birth (to confirm participants is 18 years and above). All Patients were assured that their details and all the data will be used for study purpose only and no information of whatever nature would ever be shared with anyone.

Source of data: Data was collected from 3 sources.

1. History given by the patient.
2. Treatment record available with participants and
3. Parameters obtained from physical examination and ultrasonography findings.

ltrasonography

Both Transabdominal and Transvaginal sonography used in the diagnosis of fibroids.

Data analysis

Completed questionnaire were cross checked for completeness and accuracy of data before entering into the software. Before data entry responses were coded and the data and entry was done using Microsoft Excel version 2013. At a later stage all the data was transferred to SPSS version 22.0 for statistical analysis. Descriptive summary using frequencies, proportions, graphs and cross tabs were used to display study results. Probability (p) was calculated to test for statistical significance at 5% level of significance. Association between various factors was determined using Chi Square test.

Ethical consideration

The ethical clearance was obtained from the Review Board of Deccan College of Medical Sciences before commencement of the study.Written informed consent was taken from each selected participant to confirm willingness. Explanation of the survey purpose and an offer to answer all enquiries was made to the respondents. Also been told that they are free to withdraw consent and to discontinue participation at any time. Privacy was maintained throughout the study.

RESULTS

Study group characteristics

Table No 1: Distribution of Study Participants According To Age Groups.

Age In Years	Frequency	Percentage
20-24	8	13.3%
25-29	13	21.7%
30-34	16	26.7%
35-39	21	35%
40-45	2	3.3%
Total	60	100%

Study included patients between the age group ranging from 20 Years to 45 Years With mean age of 32.07±5.5 years. Maximum number of patients were seen in the age group of 35- 39 years which consisted of 21 (35%) patients.

Table No 2: Distribution of patients according to pain abdomen.

Pain Abdomen	Frequency	Percentage
Yes	40	66.7%
No	20	33.3%
Total	60	100%

Among 60 patients, maximum number of patients had pain abdomen 40 (66.7%) and 33.3% did not complain of pain abdomen.

Table No 3: Distribution of patients according to irregular cycles.

Irregular Cycles	Frequency	Percentage
Absent	15	25%
Present	45	75%
Total	60	100%

In our study out of 60 patients, maximum patients that is 45(75%) had complaints of irregular cycles followed by 15(25%) who had no complaints of irregular cycles.

Table No 4: Distribution according to reduction in size of fibroids.

REDUCTION IN SIZE OF FIBROID	Frequency	Percentage
Yes	24	40%
No	36	60%
Total	60	100%

Of 60 patients, 24(40%) had reduction in size of fibroids and 36(60%) had no reduction in size of fibroids.

Table No: 5: Showing improvement in symptoms after using MPA at 1st, 2nd and 3rd follow up.

Symptom	Baseline	1st Follow up (1month)	2nd follow-up (3 months)	3rd follow up (6 months)
Irregular cycles	23	6 (26%)	11(47.8%)	11(47.8%)
Dysmenorrhea	21	8 (38%)	11(52.3%)	13(61.9%)
Menorrhagia	19	10(52.6%)	11(57.8%)	14(73.6%)
Pain abdomen	20	11(55%)	16(80%)	16(80%)
Dyspareunia	21	8(38%)	12(57.14%)	17(80.9%)
Reduction in uterine volume	20	10(50%)	13(65%)	15(75%)
Infertility	12	5(41.6%)	7(58.3%)	7(58.3%)
Dragging sensation in pelvis	14	9(64.2%)	11(78.5%)	11(78.5%)
Reduction in size of fibroid	12	5(41.6%)	7(58.3%)	8(66.6%)

Among all the 60 patients enrolled for study, thirty were randomized for drug MPA. All of them followed up three times at the end of 1st month, at the end of third month andat the end of sixth month.

Those who complained of irregular cycles, twenty two patients (23) got treatment with UCL and 26% showed improvement at 1st follow up, 47.8% showed improvement at 2nd follow up and 47.8% showed improvement at by 3rd follow up.

For Dysmenorrhea, out of 21 patients complaining 38%, 52.3%, 61.9% showed improvement at 1st, 2nd, and 3rd follow up consecutively.

For Menorrhagia, out of 19 patients the improvement at consecutive visits is 52.6%, 57.8%, 73.6%.For the symptom pain abdomen of 20 patients the improvement is 55%, 80% and 80% by consecutive visits.

For Dyspareunia, out of 21 patients 38% patients showed improvement at 1st follow up and 57.14% at 2nd, 80.9% showed improvement by 3rd visit.

Out of 20 patients, 75% of them showed reduction in uterine volume by 3rd visit. Patients (14) with dragging sensation 78.5% of them showed improvement by 3rd visit.

While coming to ultra sound findings, out of 12 patients, 41.6% showed improvement in 1st visit, 58.3% showed reduction in 2nd visit and 66.6% of patients showed reduction in the size of fibroid by 3rd visit.

While coming to complaints of infertility 41.6% showed

improvement in 1st visit followed by 58.3% in 2nd and 3rd visits.

Table 6: Showing improvement in symptoms after using UPA at 1st, 2nd and 3rd follow up.

Symptom	Baseline	1st Follow- up (1month)	2nd follow- up (3 months)	3rd follow up (6 months)
Irregular cycles	22	15 (68.1%)	16(72.7%)	19(90.9%)
Dysmenorrhea	21	18 (70.3%)	19(88.8%)	21(96.2%)
Menorrhagia	19	16(84.2%)	17(94.4%)	18(94.7%)
Pain abdomen	20	17(85.7%)	17(85.7%)	19(95%)
Dyspareunia	21	17(80.9%)	18(85.7%)	19(90.47%)
Reduction in uterine volume	20	16(80%)	17(85%)	19(95%)
Dragging sensation in pelvis	14	11(78.5%)	11(78.5%)	12(85.5%)
Reduction in size of fibroid	12	8(66.6%)	9(75%)	9(75%)
Infertility	14	11(78.5%)	12(85.7%)	13(92.8%)

Among all the 60 patients enrolled for study, thirty were randomized for drug UPA. All of them followed up three times at the end of 1st month, at the end of third month and at the end of sixth month.

Those who complained of irregular cycles, twenty two patients (22) got treatment with UPA and 68.1% showed improvement at 1st follow up, 72.7% showed improvement at 2nd follow up and 90.9% showed improvement at by 3 rd. follow up.

For Dysmenorrhea, out of 21 patients complaining 70.3%, 88.8%, 96.2% showed improvement at 1st, 2nd, and 3rd follow up consecutively.

For Menorrhagia ,out of 19 patients the improvement at consecutive visits is 84.2%, 94.7%, 94.7%.

For the symptom pain abdomen, of 20 patients the improvement is 85.7% for both visits and 95% by third visit.

For Dyspareunia, out of 21 patients 80.9% patients showed improvement at 1st follow up and 85.7% at 2nd, 90.47% showed improvement by 3rd visit.

Out of 20 patients, 95% of them had reduction in uterine volume by 3rd visit.

Patients (14) with dragging sensation, 85.5% of them showed improvement by 3rd visit. While coming to ultra sound findings, out of 12 patients, 75% of patients showed reduction in the size of fibroid by third visit.

Out of 14 patients complaining of infertility, maximum of 13(92.8%) patients had no complaints of infertility following 3rd visit.

Table 7: showing side effects in patients after using MPA.

SYMPTOMS	FREQUENCY	PERCENTAGE
Weight gain	11	36.6%
Headache	10	33.3%
Intermittent spotting	8	26.6%
Swelling of hands and feet	7	23.3%
Nausea	3	10%
Breast tenderness	3	10%
Amenorrhea	3	10%

From the above table it was seen that maximum number of patients had weight gain after using MPA (36.6%) followed by headache(33.3%), intermittent spotting(26.6%), swelling of hands and feets (23.3%) Nausea (10%), breast tenderness (10%) and amenorrhea (10%).

Table 8: Showing side effects in patients after using UPA.

SYMPTOMS	FREQUENCY	PERCENTAGE
Headache	10	33.3%
Dizziness	6	20%
Tiredness	5	16.6%
Amenorrhea	3	10%

The common side effect of patients on UPA is head ache which is complained by 33.3% of patients, followed by dizziness in 20% patients, tiredness in 16.6% patients and amenorrhea in 10% of patients.

Table 9: Showing comparison of both drugs (UPA, MPA) in the improvement of Symptoms at 1st, 2nd, 3rd follow up visits with chi-square, P value.

Symptom	Base line UPA	Base line MPA	1st follow up (1month) UPA	1st follow up (1month) MPA	2nd follow up (3 months) UPA	2nd follow up (3 months) MPA	3rd follow up (6 months) UPA	3rd follow up (6 months) MPA	Chi-square and P value
Irregular cycles	22	23	68.1% (15)	26% (6)	72.7% (16)	47.8% (11)	90.9% (19)	47.8% (11)	chi square=3.248 P=0.039
Dysmenorrhea	21	21	70.3% (18)	38% (8)	88.8% (19)	52.3% (11)	96.2% (21)	61.9% (13)	chi square=0.829 P=0.189
Menorrhagia	19	19	84.2% (16)	52.6% (10)	94.7% (18)	57.8% (11)	100% (19)	73.6% (14)	chi square=2.428 P=0.058
Pain abdomen	20	20	85.7% (17)	55% (11)	85.7% (17)	80% (16)	95% (19)	80% (16)	chi square=0.0163 P=0.542
Dyspareunia	21	21	80.9% (17)	38% (8)	85.7% (18)	57.1% (12)	100% (21)	80.9% (17)	chi square=2.037 P=0.044
Infertility	14	12	78.5% (11)	41.6% (5)	85.7% (12)	58.3% (7)	92.8% (13)	58.3% (7)	chi square=0.114 P=0.372
Reduction in uterine volume	20	20	80% (16)	50% (10)	85% (17)	65% (13)	100% (20)	75% (15)	chi square=1.705 P=0.09
Dragging sensation in pelvis	14	14	78.5% (11)	64.2% (9)	78.5% (11)	78.5% (11)	85.5% (12)	78.5% (11)	chi square=0.114 P=0.372

Chi-square test is applied to know the significance of UPA over MPA in theimprovement of symptoms. Which showed there is significant improvement in the symptom of irregular cycles with UPA compared to MPA (chi-square=3.248, P=0.039).There is significant improvement in the symptom of Menorrhagia with UPA compared to MPA (chi- square=2.428, P=0.058). There is significant improvement in the symptom of dyspareunia with UPA compared to MPA (chi-square=2.037, P=0.044). With other symptoms also maximum patients on drug UPA showed improvement but which are not statistically significant.

DISCUSSION

The present study "**Comparative Study of Progesterone And Selective Progesterone Receptor Modulator In Treatment of Fibroids"** done in the outpatient department of obstetrics & Gynecology, Deccan College of Medical Sciences, Hyderabad helps compares the effectively and side effects occurring by these drugs.

In this study, after explaining them about the study and taking the consent we have recruited 70 participants with symptoms of fibroids and based on ultrasound findings. These 70 patients were randomised in to two groups containing 35 patients in each group.5 patients in one arm did not continue the study and another 5 patients dropped and discontinued to be in the study.so each group had 30 patients. One group was started on Ulipristal acetate and another group was started on progesterone. Both the groups were followed for six months and enquired at the end of 1st month, at the end of 3rd month and 6th month about symptoms and ultra sound isdone.

SUMMARY & CONCLUSIONS

The present study involved 70 participants out of which 35 were taken in arm of Medroxy progesterone acetate (MPA) of which 5 patients dropped in the middle of study and 30 patients were followed up throughout the study and 35 were taken in arm of ulipristal acetate (UPA) and in this arm also 5 patients did not follow up and 30 patients were followed in the study and have been studied for a period of 18 months from 1st January 2018 to 31st June 2019.

1. Among the study participants, maximum of 35% were in the age group of 35-39 years with mean age as 32.07±5.5years of which maximum of 66.7% were literates and 33.3% were illiterates among which 50% were intermediate followed by 25% graduates and 12.5% were from high school and 7.5% were of middle school and least were from primary school(5%).
2. Among them maximum of 28.3% were clericals according to profession followed by 23.3% were professional, 16.7% semiprofessionals, 10% each unskilled and unemployed, 8.3% were skilled workers and least 3.3% were semiskilled.
3. Of 60 Patients, maximum number of patient's belonged to upper middle and lower middle class followed by 21.7% belonged to upper lower class,

11.7% were from lower class and least (6.7%) were from upper class.

4. Among the patients, maximum number of patients had Pain abdomen 40 (66.7%) and 33.3% did not complain of pain abdomen, 45(75%) had complaints of irregular cycles.
5. In the present study, maximum of 38 patients that is 63.3% Complained to menorrhagia.
6. Of 60 patients, 42(70%) had complaints of Dysmenorrhea and 18(30%) did not have symptoms of it.
7. Among all the patients, 42(70%) had complaints of Dyspareunia and 18(30%) did not have symptoms of it, 40(66.7%) had reduction in uterine volume and 20(33.3%) had no reduction in uterine volume.
8. Of them, 28(46.7%) had complaints of dragging sensation and 32(53.3%) had no complaints of dragging sensation in pelvis. 24(40%) had reduction in size of fibroids.
9. Among all the 60 patients enrolled for study, thirty were randomized for drug MPA. All of them followed up three times at the end of 1st month, at the end of third month and at the end of sixth month. Those who complained of irregular cycles twenty two patients (23) got treatment with UPA and 26% showed improvement at 1st follow up, 47.8% showed improvement at 2nd follow up and 47.8% showed improvement by 3 rd follow up.
10. For Dysmenorrhea, out of 21 patients complaining 38%, 52.3%, 61.9% showed improvement at 1st, 2nd, and 3rd follow up consecutively.
11. For Menorrhagia, out of 19 patients the improvement at consecutive visits is 52.6%, 57.8%, 73.6%.
12. For the symptom pain abdomen, of 20 patients the improvement is 55%, 80% and 80% by consecutive visits.
13. For Dyspareunia, out of 21 patients 38% patients showed improvement at 1st follow up and 57.14% at 2nd, 80.9% showed improvement by 3rd visit.
14. Out of 20 patients, 75% of them showed reduction in uterine volume by 3rd visit. 15)Patients (14) with dragging sensation 78.5% of them showed improvement by 3rd visit.
15. While coming to ultra sound findings out of 12 patients, 41.6% improvement in 1st visit, 58.3% showed reduction in 2nd visit and 66.6% of patients showed reduction in the size of fibroid by third visit.
16. Out of 12 patients complaining of infertility, maximum of 7(58.3%) patients had no complaints of infertility following 3rd visit of MPA.
17. Among all the 60 patients enrolled for study, thirty were randomized for drug UPA. All of them followed up three times at the end of 1st month, at the end of third month and at the end of sixth month.
18. Those who complained of irregular cycles, twenty two patients (22) got treatment with UPA and 68.1% showed improvement at 1st follow up, 72.7% showed improvement at 2nd follow up and 90.9% showed improvement at by 3 rd. follow up.
19. For Dysmenorrhea, out of 21 patients complaining 70.3%, 88.8%, 96.2% showed improvement at 1st, 2nd, and 3rd follow up consecutively.
20. For Menorrhagia ,out of 19 patients the improvement at consecutive visits is 84.2%, 94.7%, 94.7%.For the symptom pain abdomen of 20 patients the improvement is 85.7% for both visits and 95% by third visit.
21. For Dyspareunia, out of 21 patients 80.9% patients showed improvement at 1st follow up and 85.7% at 2nd, 90.47% showed improvement by 3rd visit.
22. Out of 20 patients, who were reduction in uterine volume in 95% of them by 3rd visit. 24) Patients (14) with dragging sensation, 85.5% of them showed improvement by 3rd visit. While coming to ultra sound findings out of 12 patients, 75% of patients showed reduction in the size of fibroid by third visit.
23. Out of 14 patients complaining of infertility, maximum of 13(92.8%) patients had no complaints of infertility following 3rd visit following UPA.
24. Among the Side effects of MPA, maximum number of patients had complained of weight gain after using MPA (36.6%) followed by headache (33.3%), intermittent spotting (26.6%), swelling of hands and feets (23.3%), Nausea (10%), breast tenderness (10%) and amenorrhea (10%).
25. The common side effect of patients on UPA is head ache which is complained by 33.3% of patients, followed by dizziness in 20% patients, tiredness in 16.6% patients and amenorrhea in 10% of patients.
26. Chi-square test is applied to know the significance of UPA over MPA in the improvement of symptoms. Which showed there is significant improvement in the symptom of irregular cycles with UPA compared to MPA (chi-square=3.248, P=0.039).There is significant improvement in the symptom of Menorrhagia with UPA compared to MPA (chi-square=2.428, P=0.058). There is significant improvement in the symptom of dyspareunia with UPA compared to MPA (chi-square=2.037, P=0.044). With other symptoms also maximum patients on drug UPA showed improvement but they are not statistically significant.

Limitations of the study

1) The present study was started with 70 patients but there were dropouts so only 60 patients could be followed till the end of study.
2) The analysis also did not include patients less than 20 years and patients more than 45years as sometimes fibroids could occur above 45years as well
3) The results could not be generalized to whole population because of small sample size.
4) Because of time & financial constraints, was unable to collect detailed data which would have yielded

more information.

Recommendations

1) Fibroids are commonly effects females in reproductive age altering their menstrual patterns with infertility issues.
2) But treatment of these fibroids must be individualized based on symptoms, size age, need and desire of patients to preserve fertility.
3) Recent advancements in the medical treatments showed that SPRM'S have proven to be very effective in decreasing menstrual blood loss, decreasing the size of fibroids, reducing fibroid volume and pain in women with symptomatic uterine fibroid thus relieving the patients of their symptoms particularly those who wish to preserve fertility.
4) SPRM'S also improved the quality of life and general condition of patients awaiting surgery and also helped to avoid surgery required in small to moderate size fibroids.
5) In comparison between MPA and UPA, it was found that maximum improvement of symptoms were seen with use of UPA than MPA and also very few side effects were noted by UPA and the need of surgery was reduced by using UPA thus making it superior to MPA. So, I recommend that many of the studies should be still done on large samples and patients should be educated and assured about UPA use and it should be recommended to be used on a large scale.

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