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Research Article

STUDY OF CLINICAL MANAGEMENT OF ENDOMETRIOSIS – ASSOCIATED INFERTILITY AND ITS IMPACT ON LIFESTYLE

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ABSTRACT

Purpose: The purpose of the study was to perform an observational study on endometriosis, its management and associated infertility. **Method:** It was a hospital- based retrospective observational study conducted for 6 months. Patients fulfilling the inclusion criteria the data was collected from patient data sheets, and by interviewing them were included in the study.

Result: Among 84 female patients suffering from endometriosis. The most affected age group was between 27 to 35 years. Grade-I and Grade-II was mostly seen in patients with age group 27 to 30 years and Grade-III and Grade-IV was seen in higher age group i.e. 35-40 years. Endometriosis associated infertility was treated mostly with medical management and when medical management fails surgical management was opted. **Conclusion:** Result of the study showed that medical management was used to treat endometriosis-associated infertility and surgical management was opted to treat infertility in recurrent Endometriosis.

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INTRODUCTION

Endometrium is the inner uterine lining. It is the inner-most layer of the uterus that sheds and exit out from the body during menstrual cycle. Endometriosis refers to growth of cells of the endometrium in various parts outside the uterus. It results when endometrial tissue invades and moves outside the uterus and grows outside the uterine cavity (eclecT.A.A.(n.d.), 2014). These endometrial foci are found outside the reproductive tract and it tends to grow on various parts of the body. Endometrium is hormonally sensitive tissue. 2-10% of reproductive-age women are affected by this (G.A.J. Dunselman, 2014). It is a reproductive disorder characterized by Retrograde-menstruation, dysmenorrhea and pelvic pain. One of the examinations recommends a positive relationship between menarche before 13 years and the expanded hazard of creating endometriosis (ANNE L. MOUNSEY, 2006). It is generally considered a normal constant gynecological problem that typically gives relentless pelvic torment or infertility. Endometriosis has 3 separated subtypes by gross and tiny examination comprising of endometriomas, shallow endometriotic inserts (the focal point of illness principally on the peritoneum), and profoundly invading endometriosis (Hospital, 2018). Each structure might have its etiology or offer starting points with different types of this normal tenacious gynecologic disease. The presence of endometriosis differs generally relying upon the area and degree of the infection

(Asghari, 2018). The foci of endometriosis seem blue or brownish-black in variety. Foci are encircled by tissue. Ovarian is reciprocal. A bigger blister, 3-5cm in width, loaded up with old dark brown blood forms a chocolate cyst of the ovary (Parasar, 2017). The menstrual cycle primarily depends on the hormones estrogen and progesterone. With the help of Estrogen, cells grow on the uterine lining. When there is no pregnancy progesterone drop occurs and the inner uterine lining sheds. Thus the cycle begins. When these two hormones are in balance, all the functions occur properly. The most common cause of endometriosis is having more estrogen and less progesterone. That leads to the overgrowth of cells (Rafique, 2017). Stages of endometriosis, (Mohan, 2018)

- Stage I (minimal): The patient has a few small lesions but no scar tissue.
- Stage II (mild): There are no scar tissue but more lesion. Less than 2 inches of the abdomen are involved.
- Stage III (moderate): The lesion may be deep. The patient will develop endometriomas and scar tissue around the ovaries or fallopian tubes.
- Stage IV (severe): Many lesions and large cysts in the ovaries. The patient will develop endometriomas and scar tissue around the ovaries or fallopian tubes or between the uterus.

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Clinical presentation may develop at any time during the reproductive age, sign and symptoms endometriosis varies. Diagnosis is made when patients experience these signs and symptoms. (Walker, 2019)

- Menstrual irregularities: infrequent irregular or prolonged menstrual cycles.
- The symptoms take the form of dysmenorrhea and pelvic pain.
- Dyspareunia often with post-coital discomfort is common.
- Cyclic non-cyclic pelvic pain.
- Dyschezia, often with cycles of diarrhea/constipation.
- Bloating, nausea, vomiting.
- Inguinal pain.
- Dysuria.
- Nodules may be felt upon pelvic examination.
- Imaging may indicate pelvis mass/endometriomas.
- Fertility may be compromised.
- Hyperprolactinemia
- Bone mass reduction.

Endometrial Thickness (Mohapatra, 2021): The acceptable range of endometrial thickness is less and well defined; if the endometrium thickness is 8mm has been suggested in asymptomatic women. If the endometrial thickness is more than 8mm should be treated as thickened endometrium, and evaluation to be considered.

MATERIALS AND METHOD

Place of Study: Tertiary Hospital.

Study Design: Retrospective observational study.

Duration of Study: 6 months.

Inclusion Criteria

- Patients above 18 years of age
- All patients diagnosed with Endometriosis
- Patients on medical therapy
- Patients willing to sign the informed consent form.

Exclusion Criteria

- Patients under 18 years of Age
- Patients not on Medical therapy
- Patients unwilling to sign consent form.

Source of Data: Patient data collection form and patient counseling form.

Method of Data Collection: Patient profile form and Patient counselling form.

RESULTS

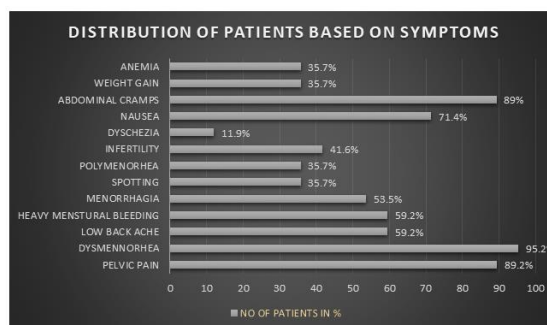
As per the age the patients were categorized into 28 categories, starting from the age of age of 18 to the age of 45. The distribution of patients is illustrated in graph given below.

The patients were divided according to the age i.e. from 18-45 years. There were 2 patient of age 18-21 years, there were 3 patient of age 22 years, there were 2 patient of age 23 years, there were 1 patient of age 24-25 years, there were 2 patient of age 26 years, there were 3 patient of age 27 years, there were 1 patient of age 28 years, there were 4 patient of age 29 years,



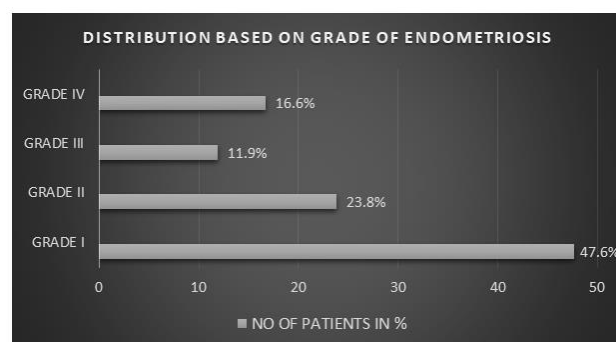
Graph 1 Distribution of patients based on age

there were 3 patient of age 30 years, there were 2 patient of age 31 years, there were 5 patient of age 32 years, there were 5 patient of age 33 years, there were 2 patient of age 34 years, there were 12 patient of age 35 years, there were 4 patient of age 36-37 years, there were 1 patient of age 38 years, there were 4 patient of age 39-40 years, there were 2 patient of age 41 years, there were 4 patient of age 42 years, there were 2 patient of age 43-44 years, there were 5 patient of age 45 years.



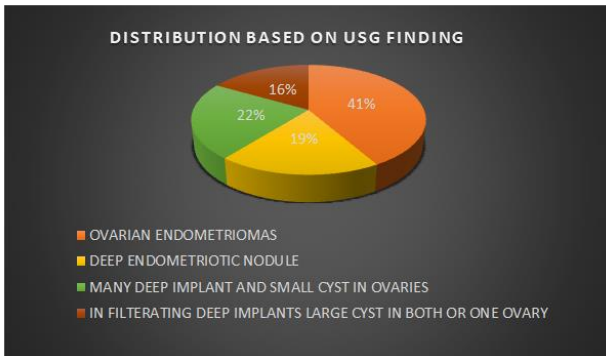
Graph 2 Distribution of patients based on sign and symptoms

The female patients were distributed based on their signs and symptoms. The data is represented graphically below. 35% of patients presented with anemia, 35.7% of patients presented with weight gain, 89.2% of patients presented with abdominal cramps, 71.4% of patients presented with nausea, 11.9% of patients presented with dyschezia, 41.6% of patients presented with infertility, 35.7% of patients presented with polymenorrhea, 35.7% of patients presented with spotting, 53.5% of patients presented with menorrhagia, 59.2% of patients presented with heavy menstrual bleeding, 59.2% of patients presented with low back ache, 95.2% of patients presented with dysmenorrhea, 89.2% of patients presented with pelvic pain.



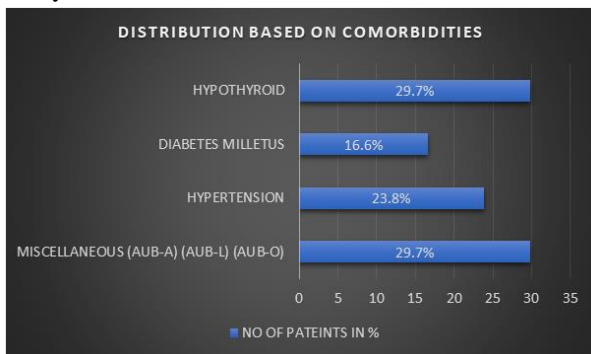
Graph 3 Distribution of patients based on the grade of endometriosis:

Female Patients were distributed based on the grade of endometriosis illustrated graphically below. There were 47.6% patients with Grade-I, There were 23.8% patients with Grade-II, There were 11.9% patients with Grade-III, There were 16.6% patients with Grade-IV.



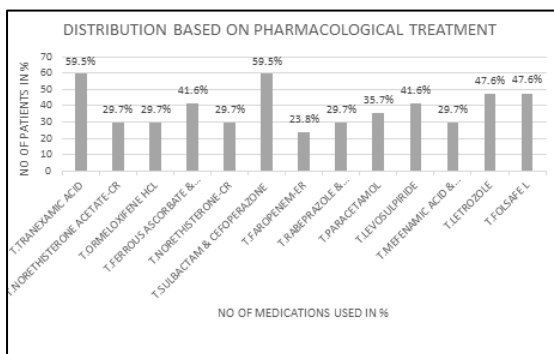
Pie chart 1 Distribution of patients based on ultra sound sonography scan (USG):

Female patient were distributed based on various endometriosis condition are illustrated graphically below. There were 41% patients with ovarian endometriomas, there were 19% patients with deep endometriotic nodule, there were 22% patients with many deep implant and small cyst in ovaries, there were 16% patients with in filtrating deep implants large cyst in both or one ovary.



Graph 4 Distribution of female patients based on comorbid conditions

Female patients were distributed based on various comorbidities are illustrated graphically below. There were 29.7% patients with hypothyroid, there were 16.6% patients with diabetes mellitus, there were 23.8% patients with hypertension, and there were 29.7% patients with miscellaneous.



Graph 5: Distribution of patients based on pharmacological treatment:

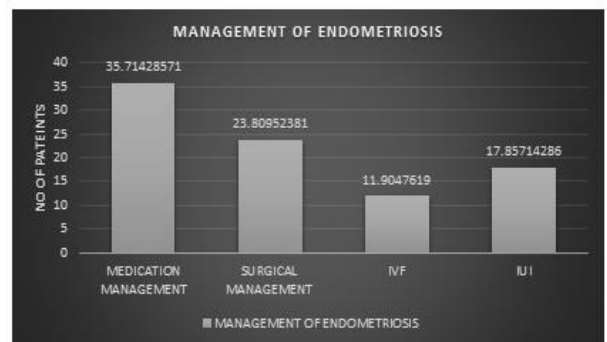
All the classes of the drug used to treat endometriosis are illustrated graphically below. There were 59.5% patients were given T. Tranexamic acid, there were 29.7% patients were given T. Norethisteron acetate-cr, there were 29.7% patients were given T. Ormeloxifene hcl, There were % patients were given T. Ferrous ascorbate, there were 29.7% patients were given T. Norethisteron-cr, There were 59.5% patients were given T. Sulbactam & cefoperazone, There were 23.8% patients were given T. Faropenem-cr, There were 29.7% patients were given T. Rabepazole & domperidone, There were 36.7% patients were given T. Paracetamol, There were 41.6% patients were given T. Levosulpiride, There were 29.7% patients were given T. Mefenamic acid, There were 47.6% patients were given T. Letrozole, There were 47.6% patients were given T. Folsafe I.

Surgical management include: Laparoscopy, Neurectomy, Salpingo-oophorectomy, Total abdominal hysterectomy. There were 50% patients were treated with Laparoscopy, There were 2.3% patients were treated with Neurectomy, There were 21.4% patients were treated with Salpingo-oophorectomy, There were 23.8% patients were treated with Total abdominal hysterectomy.



Graph 6 Combined results based on endometrial thickness classified into grades

In endometriosis, various factors like Age, Signs & Symptoms, Comorbid Conditions, and Miscellaneous factors were recorded based on the grade of endometriosis. It is evident from the above graph that female patients in the age group 27-30 years mostly developed Grade-I and Grade-II and Grade-III and Grade-IV were mostly seen age group 30-40 years. Pelvic pain and dysmenorrhea is a common symptoms seen in all four Grades of endometriosis. Comorbidities like hypothyroid, diabetes and hypertension was mostly seen in higher age group patients. Miscellaneous factors like Aub-A, Aub-O, Aub-L was mostly associated with endometriosis patients.



Graph 7 Combined results based on fertility treatment

For patient with endometriosis we observe various drug combination and surgical management was prescribed to the patients to treat endometriosis associated infertility. The data

was then graphed and we found that 35% patients were treated with medical management, 25% patient with surgical, and some patients were treated with assisted reproductive technique like IVF & IUI.

DISCUSSION

A Retrospective observational study was done for six months. The cases were collected. The patient was divided based on the following parameters: Age, Signs and symptoms, USG findings, Grades of Endometriosis include infertility, Comorbid conditions, Medical Management, and Surgical management. All these parameters were utilized to observe the efficacy of the treatment with endometriosis and its associated infertility. The average age recorded was 35 years. The patients presented with the symptoms like Pelvic pain (89%), Dysmenorrhea (95%), Low back ACE (59%), Heavy menstrual Bleeding (59%), Menorrhagia (53%), Spotting (35%), Infertility (41%) ETC. Hypothyroid was the prevalent comorbidity found in our subjects, most of the patients were diabetic and hypertensive. AUB was also seen in most of them. Endometriosis was characterized based on diagnosis and endometrial thickness and classified as follows: Grade I (47%), Grade II (23%), Grade III (11%), and Grade IV (16%). Patients with Grade-I and Grade-II endometriosis were mostly treated with medical management and Grade-III and Grade-IV were treated with surgical management. The patients with endometriosis were diagnosed with the following complication of endometriosis ovarian endometriomas (41%), deep endometriotic nodules (19%), many deep implant and small cyst in ovaries (22%), in filtering deep implants large cysts in both or one ovary (16%). The patients who suffered this symptom were treated with anti-fibrinolytic to stop bleeding, NSAIDs were given to treat pain, and estrogen and progestin combinations were given to treat hormonal imbalances. Aromatase inhibitors were given to treat infertility. Anti-emetics were given to treat nausea, hematonic were given to treat anemia.

CONCLUSION

The goal of this study was to assess and evaluate the use of different drugs to treat and prevent high-risk disease conditions that cause endometriosis include fertility. It is understood that endometriosis can be treated and fertility can be restored. Among our patients most of them patients presented with dysmenorrhea and pelvic pain. Management included Anti-fibrinolytic to treat heavy bleeding, and NSAID for pain. Progestin was given to treat menstrual irregularities and hormonal imbalance. Estrogen receptor modulator was given to treat hormonal imbalance and hematonic was given to treat anemia. The most commonly prescribed drug for endometriosis-associated infertility was treated with an Aromatase inhibitor i.e. T.Letrozole 2.5mg. Based on the study results, higher aged females were more prone. Surgical management was opted when medical management didn't give the desired outcome.

To conclude, medical management was used to treat endometriosis-associated infertility. Surgical management was used to treat recurrent endometriosis and aromatase inhibitor played a key role in management.

References

1. Services, eclecT. A. (n.d.). Women's Health and

- Education Center (WHEC) - gynecology - clinical management of endometriosis. Retrieved October 27, 2022.
2. Dunselman, G. A. J., Vermeulen, N., Becker, C., Calhaz-Jorge, C., D'Hooghe, T., De Bie, B., Heikinheimo, O., Horne, A. W., Kiesel, L., Nap, A., Prentice, A., Saridogan, E., Soriano, D., & Nelen, W. (2014, January 15). Eshre guideline: Management of women with endometriosis. OUPAcademic. Retrieved October 27, 2022.
 3. Mounsey, A. L., Wilgus, A., & Slawson, D. C. (2006, August 15). *Diagnosis and management of endometriosis*. American Family Physician. Retrieved October 27, 2022.
 4. Bansari Patel, Gretchen Collins, Erika Johnston-MacAnanny, & Robert N. Taylor. (n.d.). Clinical manifestations, diagnosis, and treatment of endometriosis <http://www.eurekaselect.com>. Retrieved October 27, 2022.
 5. Medical treatments for endometriosis. Endometriosis Medical Treatment - Brigham and Women's Hospital. (n.d.). Retrieved October 27, 2022.
 6. Medical treatments for endometriosis. Endometriosis Medical Treatment - Brigham and Women's Hospital. (n.d.). Retrieved October 27, 2022.
 7. Assistant Professor. Endometriosis- easy explanation with management... [Internet]. Share and Discover Knowledge on Slide Share. [CITED 2023Mar13].
 8. Endometriosis: Types, symptoms, causes, treatments, and complications [Internet]. WebMD. WebMD; [Cited 2023Mar13].
 9. Endometriosis: Types, symptoms, causes, treatments, and complications [Internet]. WebMD. WebMD; [Cited 2023Mar13].
 10. Author links open overlay panelSamira Asghari a b, a, b, c, d, e, et al. Endometriosis: Perspective, lights, and shadows of etiology [Internet]. Biomedicine & Pharmacotherapy. Elsevier Masson; 2018 [Cited 2023Mar13].
 11. Parasar P, Ozcan P, Terry KL. Endometriosis: Epidemiology, diagnosis and clinical management [Internet]. Current obstetrics and gynecology reports. U.S. National Library of Medicine; 2017 [Cited 2023Mar13].
 12. Wellbery C. Diagnosis and treatment of endometriosis [Internet]. American Family Physician. 1999 [Cited 2023Mar13].
 13. Endometriosis [Internet]. Mayo Clinic. Mayo Foundation for Medical Education and Research; 2018 [Cited 2023Mar13].
 14. Endometriosis: Life hacks for coping with the condition [Internet]. Medical News Today. MediLexicon International; [Cited 2023Mar13].
 15. Google search. Google; [Cited 2023Mar13].
 16. Vandergriendt C. Laparoscopy for endometriosis: Procedure, recovery, and more [Internet]. Healthline. Healthline Media; 2022 [Cited 2023Mar13].
 17. Surgeon L. Laproscopic endometriosis - preparation, procedure & recovery [Internet]. Laparoscopy Surgery. 2020 [Cited 2023Mar13].
 18. Fertilitypedia - presacral neurectomy [Internet]. /Fertilitypedia. [Cited 2023Mar13].

19. Pietrangelo A. What to expect from Salpingo-Oophorectomy [Internet]. Healthline. Healthline Media; 2018 [Cited 2023Mar13].
20. Oophorectomy: Purpose, surgery, risks & recovery [Internet]. Cleveland Clinic. [Cited 2023Mar13].
21. Danazol [Internet]. Uses, Interactions, Mechanism of Action | DrugBank Online. [Cited 2023Mar13].
22. Danazol (oral route) side effects [Internet]. Mayo Clinic. Mayo Foundation for Medical Education and Research; 2023 [cited 2023Mar13].
23. Anastrozole [Internet]. Uses, Interactions, Mechanism of Action | DrugBank Online. [Cited 2023Mar13].
24. Goserelin [Internet]. Uses, Interactions, Mechanism of Action | DrugBank Online. [Cited 2023Mar13].
25. Highlights of prescribing information [Internet]. labeling.pfizer.com. [cited 2023Mar13].
26. Macer ML, Taylor HS. Endometriosis and infertility: A review of the pathogenesis and treatment of endometriosis-associated infertility [Internet]. Obstetrics and gynecology clinics of North America. U.S. National Library of Medicine; 2012 [Cited 2023Mar13].
27. Giri SK, Nayak BL, Mohapatra J. Thickened endometrium: When to intervene? A clinical conundrum [Internet]. Journal of obstetrics and gynecology of India. U.S. National Library of Medicine; 2021 [Cited 2023Mar13].
28. Rafique S, Decherney AH. Medical Management of endometriosis [Internet]. Clinical obstetrics and gynecology. U.S. National Library of Medicine; 2017 [cited 2023Mar13].
29. Chauhan S, More A, Chauhan V, Kathane A, Sr. VVC. Endometriosis: A review of clinical diagnosis, treatment, and pathogenesis [Internet]. Cureus. 2022 [Cited 2023Mar13].
30. Management of women affected by endometriosis: Are we -sage journals [Internet]. [Cited 2023Mar13].
31. Endometriosis-associated infertility: Aspects-wiley online library [Internet]. [Cited 2023Mar13].
32. Kulyk II, Khmil SV. Endometriosis-associated infertility: The role of hormones and its correction [Internet]. International Journal of Medicine and Medical Research. [Cited 2023Mar13].

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