

THE IMPACT OF ENDOMETRIOSIS ON WOMEN'S REPRODUCTIVE HEALTH: MODERN APPROACHES TO DIAGNOSIS AND TREATMENT

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<https://doi.org/10.5281/zenodo.23196767>

Annotation. *This thesis examines the impact of endometriosis on women's reproductive health and reviews modern approaches to its diagnosis and treatment. Particular attention is given to the effects of endometriosis on ovarian function, pelvic anatomy, fertility, and reproductive outcomes. Modern diagnostic methods and individualized treatment strategies, including pharmacological therapy, surgery, and assisted reproductive technologies, are also discussed. Early diagnosis and personalized management are important for preserving fertility and improving the quality of life of affected women.*

Keywords: *Endometriosis, reproductive health, infertility, diagnosis, treatment, ovarian function, fertility preservation, assisted reproductive technologies.*

Introduction

Endometriosis is a chronic gynecological disorder that can significantly affect women's reproductive health and quality of life. It is characterized by the presence of endometrium-like tissue outside the uterine cavity and may be associated with pelvic pain, dysmenorrhea, dyspareunia, and infertility. The disease can affect ovarian function, tubal patency, pelvic anatomy, and the inflammatory environment of the reproductive system. Modern diagnosis is based on clinical assessment and imaging methods, particularly ultrasonography and magnetic resonance imaging. Treatment is individualized according to symptoms, disease severity, age, and reproductive plans and may include pharmacological therapy, surgery, and assisted reproductive technologies. Therefore, early diagnosis and personalized management of endometriosis are important for preserving reproductive function and improving reproductive outcomes.

Relevance

Endometriosis can impair reproductive function and contribute to infertility. Early diagnosis and individualized treatment are important for reducing symptoms, preserving fertility, and improving reproductive outcomes.

Aim

The aim of this study is to evaluate the impact of endometriosis on women's reproductive health and to analyze modern approaches to its diagnosis and treatment.

Main part

Endometriosis is a chronic inflammatory gynecological disorder that can significantly affect female reproductive health.

The disease is characterized by the presence of endometrium-like tissue outside the uterine cavity. The development of endometriosis is associated with chronic inflammation and local immune disturbances. Repeated inflammatory processes may contribute to the formation of pelvic adhesions and anatomical changes. Ovarian involvement is particularly important because endometriotic lesions may affect ovarian tissue and follicular development. Endometriomas can also alter the ovarian microenvironment and potentially reduce reproductive capacity.

Endometriosis may interfere with normal tubal function and pelvic anatomy. Adhesions can impair the interaction between the ovaries and fallopian tubes. The inflammatory environment may also influence sperm function, fertilization, and embryo development. In some patients, endometriosis is associated with reduced ovarian reserve. The condition may therefore contribute to difficulties in achieving spontaneous pregnancy. However, the severity of reproductive impairment varies among patients. The presence and extent of lesions, ovarian involvement, age, and duration of disease may influence reproductive outcomes. Endometriosis can also be associated with chronic pelvic pain and sexual dysfunction, which may indirectly affect reproductive planning. The disease therefore has both biological and clinical consequences for fertility.

Modern diagnosis of endometriosis is based on a combination of clinical assessment, imaging methods, and individualized evaluation of reproductive function. A detailed medical history is important for identifying characteristic symptoms such as chronic pelvic pain, dysmenorrhea, dyspareunia, and infertility. The duration and severity of symptoms should also be assessed. Gynecological examination may provide additional information about pelvic tenderness, adnexal abnormalities, or reduced pelvic organ mobility. Transvaginal ultrasonography is an important non-invasive imaging method for detecting ovarian endometriomas and some forms of deep endometriosis. Magnetic resonance imaging can provide additional information when deep or anatomically complex lesions are suspected. Modern imaging approaches may help determine the location and extent of lesions and support treatment planning.

Laboratory tests are not generally sufficient to establish the diagnosis independently, but they may be useful for evaluating the patient's general and reproductive condition. Assessment of ovarian reserve may be considered in women with infertility or ovarian involvement.

Reproductive evaluation should also include assessment of ovulatory function and other factors that may contribute to infertility. Diagnostic findings should be interpreted together with clinical symptoms and reproductive history. In selected cases, minimally invasive surgical evaluation may provide direct visualization and histological confirmation of lesions. However, the diagnostic approach should be individualized according to symptoms, imaging findings, treatment history, and reproductive plans. Early and accurate diagnosis can facilitate appropriate management and reduce unnecessary delays in treatment. A multidisciplinary approach may be beneficial in complex cases involving infertility, pain, and extensive disease.

Treatment of endometriosis should be individualized according to the patient's symptoms, age, disease characteristics, ovarian function, and reproductive plans. The main therapeutic goals include reducing pain, controlling disease activity, preventing recurrence, and preserving reproductive potential. Pharmacological treatment commonly focuses on hormonal suppression of endometriotic lesions and control of pain symptoms.

Hormonal therapies may reduce inflammatory activity and suppress cyclic stimulation of ectopic endometrial tissue. The choice of treatment depends on the patient's clinical condition and whether pregnancy is currently desired. Surgical treatment may be considered when there are significant anatomical abnormalities, symptomatic endometriomas, deep lesions, or other indications. Minimally invasive laparoscopic techniques are commonly used for the surgical management of endometriosis. Surgical treatment should be performed carefully because excessive removal of ovarian tissue may negatively affect ovarian reserve.

In women seeking pregnancy, treatment decisions should take into account both disease control and fertility preservation. Assisted reproductive technologies may be considered when spontaneous conception is unlikely or when infertility persists despite appropriate management. In vitro fertilization can provide an important reproductive option for selected patients.

The choice between medical treatment, surgery, expectant management, and assisted reproductive technologies should be based on individual clinical characteristics. Long-term follow-up is important because endometriosis may recur after treatment. Management of chronic pain may also require a multidisciplinary approach involving gynecologists, reproductive specialists, and pain management professionals.

Conclusion

Endometriosis can significantly affect women's reproductive health through chronic inflammation, pelvic adhesions, ovarian involvement, and impaired reproductive function.

Modern diagnostic methods, particularly ultrasonography and magnetic resonance imaging, facilitate earlier and more accurate assessment of the disease. Treatment should be individualized according to symptoms, disease severity, ovarian function, and reproductive plans.

A combination of pharmacological therapy, minimally invasive surgery, and assisted reproductive technologies may help control symptoms and improve reproductive outcomes. Early diagnosis and personalized management are essential for preserving fertility and improving the quality of life of women with endometriosis.

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