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Article

The Relevance of Endometrioid Cysts in Gynecology

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Abstract: Endometriosis, particularly in the form of endometrioid cysts, remains one of the most pressing issues in contemporary gynecology. Despite its prevalence, gaps remain in understanding its etiology and pathogenesis, and no single treatment guarantees a cure. This study aims to investigate current diagnostic and therapeutic strategies for endometrioid cysts, highlighting the role of laparoscopic intervention and hormonal therapy. Through a clinical-analytical approach, the study evaluates patients with confirmed endometrioid ovarian cysts, analyzing the outcomes of surgical and pharmacological treatments. Findings show that while surgery—especially cystectomy—is effective in pain relief and improving fertility potential, recurrence is common without proper anti-relapse hormonal support. Comparative analysis suggests that continuous combined oral contraceptives (COCs) offer significant preventive value. The implications point to a need for individualized management strategies based on patient reproductive goals, symptom severity, and cyst characteristics. Further research is required to refine diagnostic tools and explore long-term therapeutic combinations to reduce recurrence and improve patient quality of life..

Keywords: endometriosis, endometrioid cysts, laparoscopy, hormonal therapy, recurrence, COCs, gynecological surgery

Introduction

Endometriosis is a chronic, often progressive gynecological condition affecting women of reproductive age and characterized by the presence of endometrial-like tissue outside the uterus. One of its common manifestations is the formation of endometrioid ovarian cysts, also known as endometriomas. These cysts are associated with chronic pelvic pain, infertility, and decreased quality of life, contributing significantly to the disease burden in gynecology [1,2]. The condition presents complex diagnostic and therapeutic challenges due to its nonspecific symptoms and variable clinical course [3].

The existing literature highlights the importance of both conservative and surgical management strategies. Hormonal therapies such as COCs, progestins, and GnRH agonists have been shown to reduce symptom severity by suppressing ovulation and endometrial proliferation [4,5]. However, these treatments often have limited long-term efficacy and are associated with undesirable side effects. The "gold standard" for diagnosis remains laparoscopy with histological confirmation, yet even this approach does not fully prevent recurrence after intervention [6,7].

A significant knowledge gap persists regarding the optimal long-term management of endometriomas, particularly concerning recurrence prevention and fertility preservation. Previous studies have addressed isolated aspects such as surgical technique or hormonal management, but few have comprehensively evaluated their combined and sequential application in clinical settings [8,9,10].

This study adopts a comparative clinical approach, analyzing patient outcomes following surgical treatment with subsequent anti-relapse hormonal therapy. It explores variables such as cyst size, symptom presentation, and hormonal regimen type to determine effective management strategies [11,12].

By integrating surgical insights with pharmacological follow-up, this research aims to enhance clinical guidelines and inform evidence-based strategies for treating endometrioid cysts [13]. The ultimate goal is to reduce recurrence, preserve reproductive function, and improve patients' quality of life through a comprehensive, personalized approach to treatment.

Materials and Methods

This study was conducted through a structured clinical evaluation of women of reproductive age diagnosed with endometrioid ovarian cysts. Inclusion criteria for the main study group included confirmed ultrasound signs of endometrioid cysts and their validation through laparoscopic and histological examination. Patients with extragenital endometriosis, other ovarian tumors, inflammatory diseases of the pelvic organs, and comorbidities in the stage of decompensation were excluded. A comparative group included women with infertility of unclear etiology, without endometriotic manifestations. The investigation was carried out in several phases: initial assessment of patient medical history and gynecological examination, followed by laparoscopic surgery when indicated. The effectiveness of surgical management was evaluated in terms of symptom relief, recurrence, and reproductive outcomes. Postoperative hormonal therapy—primarily COCs and progestins—was administered to prevent recurrence, with regular follow-up including ultrasound monitoring every six months. Data collected from both groups were analyzed qualitatively to assess treatment efficacy and determine optimal management strategies. This methodology allowed for a comprehensive assessment of both the short- and long-term outcomes associated with different treatment pathways.

Results and Discussion

The study confirmed the high clinical relevance of endometrioid cysts, particularly among women of reproductive age [16]. Surgical intervention via laparoscopy was shown to provide effective symptom relief, especially for pelvic pain, and allowed for precise diagnosis through histological confirmation. Cystectomy was identified as the preferred surgical approach due to its higher efficacy and lower recurrence rates compared to aspiration or sclerotherapy. However, recurrence remained a notable concern without long-term hormonal maintenance therapy [17,18].

Patients receiving continuous COCs postoperatively experienced significantly fewer relapses than those on cyclic regimens or monotherapy with progestins. This aligns with ESHRE guidelines recommending combined estrogen-progestin therapy for long-term management [19]. Furthermore, hormonal therapy was most effective when personalized according to the patient's reproductive plans, disease stage, and response to initial treatment.

Despite its efficacy, surgical treatment—especially repeated procedures—poses risks to ovarian reserve, as evidenced by declines in AMH levels and follicle counts postoperatively [22,23]. This underscores the need for balanced treatment planning, especially in women seeking to preserve fertility. Research also highlighted the lack of specific diagnostic biomarkers and standard preoperative criteria for distinguishing benign from potentially malignant endometriomas, necessitating surgical confirmation in suspicious cases [24].

The findings emphasize the need for an integrated approach combining surgery with individualized hormonal regimens and regular monitoring [25]. Further research should explore non-invasive diagnostic tools, such as imaging biomarkers, and investigate the long-term safety and efficacy of intrauterine devices in preventing recurrence. Moreover, theoretical studies into the pathogenesis of endometriosis—including immune dysfunction and angiogenesis—could inform the development of targeted pharmacological therapies, offering less invasive and more sustainable solutions in the future [26].

Conclusion

This study highlights the multifactorial nature of endometrioid cysts and the importance of an individualized treatment strategy combining laparoscopic surgery and long-term hormonal therapy. Cystectomy remains the most effective surgical approach, while postoperative administration of COCs provides valuable relapse prevention. However, treatment plans must be personalized to preserve fertility and minimize adverse effects. The implications point toward a need for continued development of non-invasive diagnostics and targeted therapies. Future research should focus on improving diagnostic accuracy and evaluating the long-term outcomes of newer hormonal and immunomodulatory treatments to further optimize care for patients with endometriosis.

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