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Original Article

Combined Oral Contraceptive Therapy in Women with Posterior Deep Infiltrating Endometriosis

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ABSTRACT **Study Objective:** To estimate the effect of combined oral contraceptives (COCs) in women with deep infiltrating endometriosis.

Design: Retrospective study (Canadian Task Force classification II-2).

Setting: Tertiary care university hospital.

Patients: One hundred six women with uncomplicated posterior deep infiltrating endometriosis scheduled to undergo laparoscopic surgery between November 2004 and November 2009.

Interventions: During the waiting-list time, between surgical scheduling and laparoscopic intervention (preoperative period), 75 patients received cyclic COCs (users), and 31 received no hormone therapy (COC nonusers).

Measurements and Main Results: Patients had undergone 2 clinical examinations, at surgical scheduling and immediately before surgery. Presence and intensity of dysmenorrhea, dyspareunia, chronic pelvic pain, and dyschezia were evaluated using a 10-point visual analog scale (VAS) (primary outcome). In both examinations, patients underwent transvaginal ultrasonography to evaluate localization and mean diameter of endometriotic nodules. Quality of life was evaluated using the Short Form-36 (SF-36) score. Mean (SD) nodule diameter at the beginning and end of the preoperative period in COC users was, respectively, 24.81 (15.13) mm and 26.66 (15.5) mm ($p = .09$), and in the nonuser group was, respectively, 23.09 (11.11) mm and 30.89 (19.1) mm ($p = .007$). In COC users, VAS scores for dysmenorrhea, dyspareunia, chronic pelvic pain, and dyschezia did not vary significantly during the preoperative period ($p = .90$, $p = .55$, $p = .15$, and $p = .17$, respectively). In nonusers, VAS scores for dysmenorrhea and dyspareunia were significantly higher at the second examination than at the first examination ($p = .002$ and $p = .005$, respectively), whereas scores for chronic pelvic pain and dyschezia did not vary during the preoperative period ($p = .88$ and $p = .16$, respectively). The Short Form-36 total score did not vary significantly during the preoperative period in either the COC user group ($p = .82$) or the nonusers group ($p = .76$).

Conclusions: Combined oral contraceptive therapy can have a role in restraining the progression of dysmenorrhea and dyspareunia and the growth of deep endometriotic nodules. Journal of Minimally Invasive Gynecology (2011) 18, 470–474

Keywords: Combined oral contraceptives; Deep infiltrating endometriosis; Quality of life

DISCUSS You can discuss this article with its authors and with other AAGL members at **http://www.AAGL.org/jmig-18-4-1677**

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Deep infiltrating endometriosis (DIE) is usually characterized by severe pain. Endometriosis-associated pain may occur during menstruation (dysmenorrhea) or sexual intercourse (dyspareunia) or not demonstrate any cyclic pattern (chronic pelvic pain) [1]. If deep endometriosis involves the rectum, dyschezia may occur [2,3]. Women with symptomatic endometriosis often report a significant reduction in their quality of life. Furthermore, because DIE affects young women primarily, it can possibly impair social and professional functioning [4].

Although it is generally accepted that DIE is a chronic and aggressive disease, its natural history is not completely understood. Moreover, in the current literature, there is no agreement as to whether endometriosis is a progressive disease [5,6].

The treatment of choice for symptomatic DIE is laparoscopic surgery because endometriotic lesions can be completely excised and the pelvic anatomy can be restored [7,8]. Furthermore, laparoscopic excisional surgery can significantly reduce pain and improve quality of life in 67% to 80% of patients with endometriosis [9].

In the last years, it has been observed that DIE responds to hormone treatment because estrogen and progesterone receptors are normally expressed in deeply infiltrating lesions [10]. Among hormones, combined oral contraceptives (COCs) are considered a good pharmacologic choice because they are safe, well tolerated, and relatively inexpensive and can be administered for long periods [11].

All of these data prompted us to retrospectively evaluate whether oral contraceptive therapy administered preoperatively can interfere in potential progression of DIE insofar as worsening of symptoms and growth of nodules.

Patients and Methods

Patients with posterior DIE who were scheduled to undergo laparoscopic surgery between November 2004 and November 2009 at our tertiary referral center for treatment of endometriosis were considered for inclusion in the present retrospective study. Patients were evaluated between the surgical scheduling and the laparoscopic intervention (preoperative period) because in tertiary referral centers, women with uncomplicated DIE can be wait-listed for surgery for months.

Women aged 20 to 40 years with an ultrasonographic diagnosis of uncomplicated DIE were included in the study. All patients reported symptoms related to posterior DIE including dysmenorrhea, dyspareunia, chronic pelvic pain, and dyschezia. Patients with complicated DIE with bowel stenosis, obstructive uropathy, or severe symptoms required urgent surgical intervention and were, therefore, not included in the study. The presence of gastrointestinal or urologic disease or a diagnosis of current pelvic inflammatory disease that might have caused painful pelvic symptoms not related to endometriosis were considered exclusion criteria. None of the patients included in the study had previously undergone any surgical treatment of endometriosis. None had received hormone therapy for at least 6 months before scheduling the surgical intervention.

After approval by the local ethics committee, data were collected from computerized medical records. All patients were routinely asked to give informed consent to anonymously use their clinical data for medical research.

For every patient, data collected included age, weight, height, body mass index, and use of oral contraceptives to treat endometriosis during the preoperative period. Women included in the study were retrospectively divided into 2 groups: nonusers, who had not received any hormone treatment, and users, who had received COCs during the entire preoperative period. At our center, all patients with symptomatic noncomplicated DIE who are scheduled to undergo nonurgent surgery are offered COC therapy. Nonusers are patients who do not agree or who have contraindications to hormone therapy. All users received cyclic administration of COC therapy: active pills containing 3 mg drospirenone and 20 mcg ethinilestradiol for 21 days and no hormone therapy for 7 days.

At our center, all patients with DIE and scheduled for surgery routinely undergo at least 2 clinical examinations, the first at surgical scheduling and the second immediately before the intervention. In both examinations, patients included in the study underwent transvaginal ultrasonography performed by ultrasonographers (G.V., G.M.) with extensive experience in the diagnosis of endometriosis. Presence, localization, and diameter of deep endometriotic nodules were reported in computerized clinical records. Mean nodule diameter was obtained by measuring the diameter in 3 dimensions and calculating the average. Furthermore, patients had been asked to grade the presence and severity of pain using a 10-point visual analog scale (VAS), in which a score of 1 to 3 was considered mild pain; 4 to 7, moderate pain; and 8 to 10, severe pain [12]. All of the women included in the study had a VAS score of 4 or greater for at least 1 type of pain (dysmenorrhea, dyspareunia, chronic pelvic pain, or dyschezia).

At both examinations, the women completed the Short Form-36 questionnaire (SF-36, Italian version, release 1.6), a validated multipurpose health survey for evaluation of quality of life [13]. Total SF-36 score was considered for evaluation of changes in quality of life in patients with DIE in both study groups.

The primary variables assessed were changes in VAS scores, diameter of endometriotic nodules, and SF-36 total score during the preoperative period in the COC user and nonuser groups.

Statistical Analysis

In the literature, treatment success at the 3-month follow-up after medical therapy was defined as 25% reduction in the VAS score [14]. With change in VAS score as a primary outcome measure, we retrospectively assumed that a 25% reduction in VAS pain scores between the first and second examinations in COC users was clinically significant. The