Are oral contraceptive pills effective for treatment of pelvic pain due to endometriosis?

**Evidence-Based Answer**

Combination oral contraceptive pills (OCP) are an effective treatment for pelvic pain due to endometriosis (SOR: B, RCT). No difference was noted between OCPs and gonadotrophin-releasing hormone (GnRH) analogs in pain control (SOR: B, small RCTs with consistent results).

A double-blind RCT evaluated the efficacy of a combination OCP in 96 patients (mean age 32 years) with dysmenorrhea and endometriosis (with 82 completing the study). Endometriosis was diagnosed by laparoscopy in 18% and by imaging in 82%. Researchers treated patients with either cyclical ethinyl estradiol 35 mcg/norethisterone 1 mg or placebo. The primary outcome was disability due to pelvic pain measured using a 6-point verbal rating scale (VRS), where 0 was no disability or analgesic use and 6 was severe disability. At baseline, patients had pelvic pain scores of 4 or higher. A secondary outcome was dysmenorrhea measured on a 100-point visual analog pain scale (VAS). The VAS scale baseline average was 57.

At 16 weeks, the mean VRS decreased more in the OCP group than the placebo group (2 vs 0.6; P<.001), and the VAS score also decreased more in the OCP group than the placebo group (21 vs 10; P<.001).

A Cochrane review of RCTs comparing OCPs with other treatments for pain from endometriosis identified a single nonblinded trial with 57 patients, 50 of whom completed the study. Endometriosis was diagnosed by laparoscopy, and patients had moderate to severe pain. Investigators treated patients for 6 months with either cyclical ethinyl estradiol 20 mcg/desogestrel 0.15 mg or a monthly injection of goserelin 3.6 mg (a GnRH analogue). Primary outcomes were change in VRS and VAS scores at 6 and 12 months.

At 6 months, women taking OCPs had a reduction in dysmenorrhea (effect size not noted); however, because goserelin induces amenorrhea, the authors could not compare dysmenorrhea scores. Women in both groups reported less dyspareunia and nonmenstrual pain after 6 months, but the difference between groups was not significant (dyspareunia OR 7.3; 95% CI, 0.8–68; nonmenstrual pain OR 0.6; 95% CI, 0.1–3.0). At 12 months, most women experienced a recurrence of dysmenorrhea and nonmenstrual pain, with no difference between the 2 groups (dysmenorrhea OR 0.5; 95% CI, 0.1–2.9; and nonmenstrual pain OR 0.9; 95% CI, 0.2–3.5).

A 2011 double-blind RCT assessing the effectiveness of depot leuprolide (GnRH agonist) compared with OCPs included 40 women with painful endometriosis; however, only 24 completed the study. Patients received either intramuscular injections of leuprolide 11.25 mg every 12 weeks plus daily oral norethindrone acetate 5 mg, or continuous daily oral norethindrone 1 mg/ethinyl estradiol 35 mg. Primary pain outcomes were Biberoglu and Behrman patient ratings (B&B pain score, scale 0–9) and Numerical Rating Scale (NRS pain score, scale 0–10).

After 48 weeks of therapy, the B&B pain scores decreased from a baseline of 3.9 to 1.2 in the leuprolide group (P<.0001) and to 2.5 in the OCP group (P=.008). NRS pain scores dropped from a baseline of 4.5 to 0.9 in the leuprolide group (P<.0001) and to 2 in the OCP group (P<.0001). The pain score changes with leuprolide and OCPs were not significantly different.

A 2010 Society of Obstetricians and Gynaecologists of Canada (SGOC) expert consensus guideline recommended using continuously administered combined OCPs as a first-line agent for treatment of pain associated with endometriosis, but also mentioned progestin alone as another first-line therapy. SGOC recommended GnRH agonists as second-line therapy.

The American College of Obstetricians and Gynecologists stated that after failure of initial treatment with OCPs and nonsteroidal anti-inflammatory drugs, empiric therapy with a 3-month course of a GnRH agonist was appropriate.

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