Levonorgestrel-releasing intrauterine device (LNG-IUD) for symptomatic endometriosis following surgery

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RHL summary

Findings of the review: Three randomized controlled trials (135 women) met the inclusion and exclusion criteria. These trials had compared the effects of LNG-IUD use with either expectant management or use of a GnRH analogue following laparoscopic treatment of endometriosis. In two trials (95 participants), the likelihood of recurrent painful periods was significantly reduced (0.14, 95% CI 0.04-0.47) among IUD users compared with those in the expectant management group. Also, women in the LNG-IUD group were more likely to report menstrual changes; they also reported greater satisfaction with their treatment results compared with women with no post-operative intervention, though this finding did not achieve statistical significance. Only one study (40 women) had compared post-operative use of the LNG-IUD with use of a GnRH analogue. There was no statistically significant difference among patient-reported pain scores using visual analogue scales between the groups; however, the scores among IUD users were lower and no other outcomes were reported. Overall, the quality of the evidence informing the review was rated as moderate.

Implementation: Current, limited evidence suggests that the levonorgestrel-releasing IUD is associated with a reduction in painful menses following surgical treatment for endometriosis. In addition to contraception, the LNG-IUD offers non-contraceptive benefits to women.

Cochrane review


Abstract

Various options exist for treating endometriosis, including surgical, medical, such as ovarian suppression, or a combination of these strategies. Surgical treatment of endometriosis aims to remove visible areas of endometriosis. The aim of medical therapy is to inhibit growth of endometriotic implants by induction of a hypo-estrogenic state. Treatment with a hormone-releasing intrauterine device, using levonorgestrel (LNG-IUD), has also been suggested.

To determine whether postoperative LNG-IUD insertion in women with endometriosis improves pain and reduces recurrence of symptoms compared with no postoperative treatment, postoperative insertion of a
placebo, or postoperative therapy.

The following databases were searched from inception to June 2012: Cochrane Menstrual Disorders and Subfertility Group Specialised Register of controlled trials, Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, PsycINFO, CINAHL, and the World Health Organization (WHO) International Clinical Trials Registry Platform. EMBASE was searched from 2010 to June 2012. The citation lists of relevant publications, review articles, abstracts of scientific meetings, and included studies were also searched.

Trials were included if they compared women undergoing surgical treatment for endometriosis with uterine preservation and then randomised within three months to LNG-IUD insertion versus no postoperative treatment, placebo (inert IUD), or other treatment. Diagnostic laparoscopy alone was not considered suitable treatment.

Two review authors independently selected studies for inclusion and extracted data to allow for an intention-to-treat analysis. For dichotomous data, the risk ratio (RR) and 95% confidence interval (CI) were calculated using the Mantel-Haenszel random-effects method. For continuous data, the mean difference (MD) and 95% CI were calculated using the inverse variance random-effects method.

Three randomised controlled trials were included. In two trials, there was a statistically significant reduction in the recurrence of painful periods in the LNG-IUD group compared with expectant management (RR 0.22, 95% CI 0.08 to 0.60, 95 women, $I^2 = 0\%$, moderate strength of evidence). The proportion of women who were satisfied with their treatment was also higher in the LNG-IUD group but did not reach statistical significance (RR 1.21, 95% CI 0.80 to 1.82, 95 women, $I^2 = 0\%$). The number of women reporting a change in menstruation was significantly higher in the LNG-IUD group (RR 37.80, 95% CI 5.40 to 264.60, 95 women, $I^2 = 0\%$) but the number of women not completing the allocated treatment did not differ between groups (RR 0.66, 95% CI 0.08 to 5.25, $I^2 = 43\%$).

There is limited but consistent evidence showing that postoperative LNG-IUD use reduces the recurrence of painful periods in women with endometriosis. Further well-designed RCTs are needed to confirm these findings.

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