**Abstract**

**Background:** The recurrence of deep infiltrating endometriosis (DIE) after its surgical excision is a big problem: postoperative treatment is crucial.

**Objective:** To compare two postoperative treatments: Dienogest and GnRH agonists.

**Design:** Prospective Randomized Controlled Trial (RCT).

**Patients:** 146 women submitted to laparoscopic eradication of DIE with bowel and parametrial surgery.

**Interventions:** Patients were randomized into two groups. Group A (n = 81) received Triptorelin or Leuprorelin 3.75 mg every 4 weeks for 6 months. Group B (n = 65) received Dienogest 2 mg/day for at least 6 months. A first interview made after six months valued compliance to therapy, treatment tolerability, pain improvement, and side effects. A second interview at 30 ± 6 months valued pain relapse, imaging relapse, and pregnancy rate.

**Main outcomes:** The primary outcome was to demonstrate the non-inferiority of Dienogest about the reduction in pain recurrence. Secondary outcomes were differences in terms of treatment tolerability, side effects, imaging relapse rate, and pregnancy rate.

**Results:** Both Dienogest and GnRH agonists were associated with a highly significant reduction of pain at 6 and 30 months, without any significant difference (p < .001). About treatment tolerability, a more satisfactory profile was reported with Dienogest (p = .026). No difference in terms of clinical relapse, imaging relapse, and live births was found.

**Conclusions:** Dienogest has proven to be as effective as GnRH agonists in preventing recurrence of DIE and associated pelvic pain after surgery. Also, it is better tolerated by patients.