Levonorgestrel-Releasing Intrauterine System as a Contraceptive and Treatment in Women with Uterine Leiomyoma

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Objectives: to evaluate the effects of levonorgestrel-releasing intrauterine system (LNG IUS) on leiomyoma size, menstrual blood loss (MBL), ferritin and hemoglobin concentrations during 12 months after insertion. This noncomparative, prospective open clinical trial including 64 women with uterine leiomyomas who chose LNG IUS as their method of contraception was conducted at Family Planning Center, Ott Institute of Ob/Gyn, St.Petersburg, Russia.
Study Procedures: Each participant underwent clinical and ultrasound examination prior to and 3, 6 and 12 months after LNG IUS insertion. MBL was assessed with pictorial blood loss assessment charts.
Main Measures: uterine size, uterine and total leiomyoma volume, MBL, ferritin and hemoglobin.
Results: Uterine size (mean ± SD: 7.8±1.3 weeks), uterine (135.2±70.7 ml) and total leiomyoma (28.6±27.1 ml) volumes were determined before LNG IUS insertion. Uterine size decreased at 3 and 12 months after LNG IUS insertion (7.6±1.2; $p<0.01$ and 7.2±1.2; $p<0.0001$, respectively). Participants had significant decrease in uterine volume at 3 months (131.4±68.4 ml), at 6 months (125.3±57.6 ml) and at 12 months (122.1±73.1 ml) of LNG IUS use ($p<0.05$). The change of total myoma volume became statistically significant 6 and 12 months after LNG IUS insertion (18.8±21.2 and 18.5±21.0; $p<0.0001$, respectively). Participants demonstrated a dramatic reduction in MBL as well as significant increases in mean hemoglobin and serum ferritin concentrations at 3, 6 and 12 months post-insertion compared to the baseline data. No pregnancies occurred during the study. Conclusions: This study provides evidence that LNG IUS can be considered a method of first choice for both contraception and treatment of leiomyoma-related bleeding symptoms.