

REVIEW



Non-contraceptive benefits of intrauterine levonorgestrel administration: why not?

Lorenzo Sabbioni, Felice Petraglia and Stefano Luisi

Obstetrics and Gynecology, Department of Molecular and Developmental Medicine, University of Siena, Siena, Italy

ABSTRACT

Levonorgestrel intrauterine systems (LNG-IUS) represent a modern therapy for an array of preexisting gynecological conditions, though they were first marketed in Finland in 1990. However, there are countries in which their use is extremely limited by social and cultural factors. This manuscript describes the possible reasons for this misuse, taking in consideration the clinical noncontraceptive benefits of intrauterine levonorgestrel in routinary practice. Medical diseases in which LNG-IUS represent a treatment include abnormal uterine bleeding, iron-deficiency anemia, endometrial hyperplasia, uterine fibroids, adenomyosis, endometriosis, and coagulopathies. The advantage of reducing the need for more radical treatments such as surgery or hysterectomy is well demonstrated, with remarkable benefits for patients. However, in many countries, surgery is still used as a first-line treatment and there is a need to define who could benefit from a less invasive option. It seems clear that such a reduced use of LNG-IUS depends on factors that imply both patients and practitioners, and that the role of counseling is becoming a key component in the decision-making process to reach the ultimate goal of compliance.

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Introduction

Medicated intrauterine systems are intrauterine devices that act through a local release. Intrauterine levonorgestrel systems (LNG-IUS) represent a very modern hormonal therapy, despite the fact that they were first used for contraception in 1970 [1]. An array of non-contraceptive health benefits is well demonstrated, being a key component in routinary gynecological practice although their wide diffusion in some countries has yet to come.

Their major benefits consist in reducing menstrual bleeding, anemia, pelvic pain symptoms, to treat and to prevent endometrial preneoplastic lesions. Moreover, they may cure an array of frequent benign gynecological conditions [2]. Surprisingly, many women still prefer other therapies even when LNG-IUS represent the optimal choice. In those cases, questioning about the role of counseling becomes mandatory, to ensure a better patient's satisfaction and to empower a woman-centered care.

LNG-IUS consist in T-shaped devices releasing progesterone and they can be left in place for at least 5 years. The system should be placed by a trained healthcare provider during a routine office visit and represents a much cost-effective contraceptive choice compared with the wide-diffused oral contraceptive pills.

The great advantage of having a device acting directly from the endometrial cavity is that the intrauterine administration of levonorgestrel, with direct distribution to pelvic tissues, implies a local concentration greater than plasma levels, reducing side effects. However, a minimal systemic absorption is always present [3].

Due to its local action, LNG-IUS has a profound effect on endometrium, which becomes atrophic and inactive without suppressing ovulation. In fact, it has been proven that the LNG-IUS results in a decrease in endometrial proliferation and an increase in apoptosis in endometrial glands and stroma [3].

The prescribing information for the 20- and 14-mcg levonorgestrel-releasing intrauterine systems advises that insertion should occur during the first seven days of menses. Nulliparous women, adolescents, and women who are breastfeeding may benefit of IUS. Both antibiotic prophylaxis and misoprostol use before IUS insertion are not beneficial. Possible side effects of levonorgestrel-releasing intrauterine systems include erratic and unpredictable spotting, headaches, nausea, breast tenderness, ovarian cysts, oligomenorrhea, and amenorrhea. These symptoms, common in the initial months after insertion, usually resolve rapidly in most women, leading to a good compliance after the initial period [2,4].

The use of LNG-IUS in Italy and the poor compliance

Since 1990, LNG-IUS has been approved in approximately 120 countries throughout the world, with a significant reduction of menstrual bleeding as a key of success of the system, making it widely used in Europe [5]. Meanwhile, a strange role has been played by Italy, with women being reluctant in using intrauterine systems. In 1996, a survey was carried out among 2000 Italian women [6] in order to investigate the attitudes of those self-defined as nonsterile, sexually active and who wished to avoid pregnancy.

In that occasion, only 1542 replied and, surprisingly 29.6% were using ineffective methods, principally coitus interruptus. Nevertheless, 30.3% were using oral contraceptives; only 8.1% were using an intrauterine device as a contraceptive method.

In another survey, coitus interruptus was still the most preferred method to avoid unintended pregnancies, being common among 31.6% of the couples. Condom was chosen by 28.4% of the participants and 20.9% of them were using oral contraceptives.