Levonorgestrel-releasing implant

Essential medicine status

Section: 22. Medicines for reproductive health and perinatal care > 22.1. Contraceptives > 22.1.5. Implantable contraceptive

ATC codes: G03AC03

Indication	Contact with health services for insertion of contraceptive device ICD11 code: QA21.2
INN	Levonorgestrel
Medicine type	Chemical agent
List type	Core
Formulations	**Implant > Subdermal:** 75 mg per rod (two-rods)
EML status history	First added in 2007 (TRS 946)
Sex	Female
Age	Adolescents and adults
Therapeutic alternatives	The recommendation is for this specific medicine
Patent information	Patents have expired in most jurisdictions Read more about patents.
Wikipedia	Levonorgestrel-releasing implant
DrugBank	Levonorgestrel-releasing implant (Levonorgestrel)

Summary of evidence and Expert Committee recommendations

In 2005, the Expert Committee rejected the application for two implantable contraceptives (levonorgestrel- and etonogestrel-releasing implants) after consideration of the balance of benefits, harm, suitability, the need for the additional choice and the relatively high cost. In particular, the disadvantages noted included the special training required for insertion and removal of the implant and the relatively high cost. A revised application was submitted for the present meeting by The Geneva Foundation for Medical Education and Research, but this time only for inclusion of a two-rod levonorgestrel-releasing implant, each rod containing 75 mg of levonorgestrel (150 mg total). The Committee noted that the application provided an updated review of the existing evidence for the comparative effectiveness and safety of levonorgestrel-releasing implants for reversible contraception. There are reports from studies of four different products: (1) two silastic rods containing levonorgestrel, 70 mg, with contraceptive life of up to 3 years (marketed as Norplant-2®); (2) 6-capsule implant containing 36 mg of levonorgestrel each with a contraceptive life of up to 5 years (marketed as Norplant®); (3 and 4) the proposed formulations (Jadelle® and Sino-implant No. 2). The studies distinguish the different products by brand name. Two trials comparing the proposed formulation of 2-rod implants with the 6-capsule implant have established contraceptive efficacy (1, 2). The cumulative 5-year pregnancy rate in these studies was 0.7–1 per 100 users for the 2-rod implant versus 0–0.7 per 100 users. For comparison with other methods of contraception, the application referred to a Cochrane systematic review (3). One randomized controlled trial in family planning clinics in China (4) compared Norplant-2 with intrauterine systems impregnated with levonorgestrel (LNG-20 IUS). Both methods were found to be equally effective in preventing pregnancy, with pregnancy rates of 1/3098 women-months in the group using LNG-20 IUS versus 0/3093 women-months in the group using Norplant-2. The rates for continuation, expulsion and formation of ovarian cysts showed no difference between the two contraception methods. The use of 2-rod levonorgestrel-releasing implants (Norplant-2) was associated with less amenorrhoea and oligomenorrhoea, although there were more reports of spotting and prolonged bleeding. The Committee noted that levonorgestrel-releasing implants are recommended in a number of WHO documents (5, 6) and that there are advantages of implantable contraceptives for women with risk factors for pelvic inflammatory disease and in cases of problems with adherence to other contraceptive methods. There is now at least one generic preparation and the cost has been reduced substantially. As the evidence provided in the application supports the effectiveness, safety and cost-effectiveness of 2-rod levonorgestrel-releasing implants, the Committee recommended that a 2-rod levonorgestrel-releasing implant, each rod containing 75 mg of levonorgestrel (150 mg total) be

added to the core Model List for long-term reversible contraception. 1. Sivin I et al. The performance of levonorgestrel rod and norplant contraceptive implants: a 5-year randomized study. Human Reproduction, 1998, 13:3371–3378. 2. Fan HM et al. A multicenter comparative study of Sino-levonorgestrel-releasing implants – No. I and No. II with Norplant. Journal of Reproduction & Contraception, 2004, 15:101–107. 3. French R et al. Hormonally impregnated intrauterine systems (IUSs) versus other forms of reversible contraceptives as effective methods of preventing pregnancy (Cochrane Review). In: The Cochrane Library, Issue 3. Chichester, John Wiley & Sons, Ltd., 2004. 4. Wang SL et al. Three years' experience with levonorgestrel-releasing intrauterine device and Norplant-2 implants: a randomized comparative study. Advances in Contraception, 1992, 8:105–114. 5. WHO medical eligibility criteria for contraceptive use. Geneva, World Health Organization, 2004 (http://www.who.int/reproductive-health/publications/ MEC_3/mec.pdf). 6. Selected practice recommendations for contraceptive use. Geneva, World Health Organization, 2004 (http://www.who.int/reproductive-health/ publications/spr/spr.pdf).