

An Unusual Side Effect of Etonogestrel Implant: Facial Paralysis

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Etonogestrel single rod subdermal implant provides an effective contraceptive protection for up to 3 years with no reported pregnancies in clinical trials. Unfortunately, similar to other long-term progestin-only contraceptives, Implanon® leads to irregular uterine bleeding in the majority of users. Bleeding disturbances are the main reason for discontinuation of therapy. Other reported nonmenstrual adverse effects of Implanon® include headache, acne, weight gain, and mastalgia. In this paper we do report a case of facial paralysis during the use of Implanon®.

A 35-year-old woman with an Implanon® contraceptive device in situ presented with amenore. The implant had been inserted 4 years previously which was changed one year before the removal. Because of the patient being amenorrhoeic for one year, the Implanon® was removed in January 2010. A few months later after the removal of the implant she reported an improvement of the facial paralysis that had started 4 months after the second insertion of Implanon®.

Key Words: Implanon, Etonogestrel, Facial paralysis.

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Introduction

Implanon® contains 68 mg etonogestrel (the active metabolite of desogestrel, a third-generation progestin) with a solid core of ethylene vinyl acetate, which allows controlled release of the hormone over three years of use. This highly effective contraceptive method does not rely on user compliance.^{1,2} Implants might be good choices for any woman who desires long-term, effective protection from pregnancy.

The most common side effect reported is abnormal bleeding, usually amenorrhea or infrequent bleeding, occurring in a high proportion of women in all clinical studies.³ Other reported side effects of Implanon® include acne, weight gain, mood changes, and headache. It has been suggested that the androgenic activity of these contraceptives may lead to these adverse effects.⁴

In this paper we report a case of facial paralysis during the use of Implanon®. The possibility of an association of facial paralysis and Implanon® use motivated us to review the literature, but we found no reported side effect of peripheral facial paralysis with Implanon® usage.

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Case Report

A 35-year-old woman attended the outpatient clinic of the University of Fatih, Department of Obstetrics and Gynecology, in January 2010, requesting removal of her contraceptive implant.

Four years previously she had decided to use Implanon® because she desired highly effective, long-term, compliance-free contraception. She had two pregnancies and she was relatively certain that she would not desire a pregnancy in the near future. The mode of action, insertion and removal method and side effects, including menstrual disturbance, were fully explained to her. She consented to insertion. Implanon® was inserted in her left (non-dominant) arm, using the standard technique. Since she was working in the accounting department of the hospital, she could be examined frequently. In the first 3-years period she was pleased with her contraceptive method, besides the infrequent menstruation. Usage of the Implanon® in this period had no clinically meaningful effects on laboratory parameters, i.e. lipid metabolism, hemostatic factors, liver function, thyroid function, physical and pelvic examinations, vital signs or body mass index. After three years she decided to continue with it, so we removed the implant and inserted a new Implanon® device. Since that time her bleeding pattern changed and she became amenorrhoeic for a 1-year period. With this complaint she came to our clinic and the rod was removed. A few months later she reported improvement in the facial paralysis that had started 4 months after the second insertion of Implanon®.

When we analysed her medical history more deeply it included migraines and a history of smoking. She complained about sudden-onset left facial weakness and involuntary spasms that started around the left eye. She noted watering and irritation of the left eye and distortion of sound in the ipsilateral ear. She was examined in the Neurology Department and the neurologists administered only symptomatic treatment. In a few months these spasms affected the corner of the mouth and increased. Subsequently signs of a lower motor neuron left facial paralysis was added to her symptoms. There was no sense or motor loss. She denied fever or symptoms of an upper respiratory tract infection, or history of traumatic injury to the face. Her physical examination was normal, and her blood pressure was 120/80 mmHg. Only neurological examination revealed a left-sided lower motor neuron facial nerve paralysis. Blood count and blood biochemistry panel were normal. Further blood tests including thyroid function tests, vitamin B12, erythrocyte sedimentation rate, C-reactive protein, C3, C4, ANA titre and blood sugar level were all normal. An otolaryngologist performed an examination and this was also normal. Magnetic resonance imaging of the brain and internal acoustic canal was also normal.

Independent of this problem, because of being amenorrhoeic, she decided to have her implant removed. After a few months she realised that her neurological symptoms decreased. We ordered the patient to observe whether any neurological symptoms related to the menstrual cycle increased. She confirmed this association. Despite the decrease in general neurological symptoms, her complaints increased in the premenstrual period.

Discussion

Implanon® is a highly effective long-term contraceptive method widely used around the world. The primary contraceptive mechanism is ovulation inhibition by suppression of the luteinizing hormone (LH) surge.⁵ Secondary mechanisms include decreasing the permeability of the cervical mucus for sperm penetration by increasing the viscosity of cervical mucus.⁶ The endometrial lining also changes, thus affects implantation.⁵

Since Implanon® is easy to use, it is an attractive choice for women.⁷ It is inserted subdermally in the groove between the biceps and triceps of the nondominant arm.⁸ It has advantages, such as rapid return of fertility after discontinuation and safe use in adolescents, breast-feeding women and in women with hypertension, diabetes, anemia). or contraindications to estrogen use.⁹

The most common side effect reported with Implanon® is a change in bleeding pattern. Around 20% of women will experience amenorrhoea, and almost 50% will have infrequent,

frequent or prolonged menstruation¹⁰ Other reported nonmenstrual adverse effects of Implanon® include headache, acne, weight gain, and mastalgia.¹¹ Less frequently reported side effects include nausea, leukorrhoea, abdominal pain, decreased libido, insertion site pain, and mood changes.⁸ Complications of insertion and removal, as well as the finding of "follicular cysts," are also included as adverse events.⁴

A review of the current literature reveals no prior reports of facial nerve paralysis with the use of Implanon®. The peripheral facial paralysis experienced by the patient in this case may not necessarily depend on Implanon but this could be taken into consideration as a newly discovered side effect.

In fact, facial nerve paralysis is relatively rare, with an annual incidence of approximately 30 per 100,000 individuals in a population. In addition, facial nerve paralysis has various causes. It may develop secondarily to surgery, trauma, infection, compression caused by tumors in or within the vicinity of nerves. Moreover, it may develop secondarily as a result of systemic diseases or it can be idiopathic.¹² Furthermore, peripherally traveling facial nerves have a long intracranial course and pass through the narrow canal within the intratemporal bone so they are at greater risk of injury.¹³ In our case, we could not find any hint of the aetiology of the facial nerve paralysis as she had a normal physical and neurological examination, as well as otolaryngologist consultation results. She denied fever or symptoms of an upper respiratory tract infection or further history of traumatic injury to the face.

There is the possibility that Implanon® may be responsible for the peripheral facial paralysis. By removing the Implanon®, the patient's neurological symptoms, which had increased in the premenstrual period, decreased. Another concern would be that the etanogestrel have an oedematous effect because of the mineralocorticoid activity which will induce aldosterone-dependent water-retention in some women.¹⁴ Since the facial nerve is tightly contained within a nerve sheath, it is plausible that the oedematous state may initially manifest with an isolated neurological deficit.

Implanon® has both advantages and disadvantages, like other birth control methods. With numerous contraceptive options available, it is important to determine a woman's contraceptive needs and desires. User satisfaction may also be improved with careful counseling about potential side effects and ongoing clinician support during use. It would also be useful during counseling to bear in mind the possibility of facial nerve paralysis

Acknowledgement

This case report is printed with the kind permission of the patient concerned.

Etonogestrel İmplantın Nadir Bir Yan Etkisi: Fasial Paralizi

Etonogestrel tek çubuklu subdermal implant, 3 yılın üzerinde etkili koruma sağlar. Yapılan klinik çalışmalarda bildirilmiş gebelik bulunmamaktadır. Ne yazık ki, sadece progesteron içeren diğer uzun etkili kontraseptiflere benzer şekilde, düzensiz uterin kanamalara neden olur. Kanama düzensizlikleri tedaviyi bırakmanın en önemli sebebidir. Bildirilen diğer yan etkiler; baş ağrısı, akne, kilo artışı ve mastaljidir. Literatürde fasial paralizi şeklinde bir yan etkisi hiç görülmemiştir. Bu makalede, Implanon kullanımına bağlı gelişen bir fasial paralizi olgusu sunulmaktadır.

Anahtar Kelimeler: Implanon, Etonogestrel, Fasial Paralizi

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