CASE REPORT

Implant site Nexplanon reaction?

Célia Pedroso,[1] Isabel Martins,[2] Fátima Palma,[2] Ana Isabel Machado[2]

[1]Department of Gynecology, Maternidade Alfredo da Costa, Centro Hospitalar Lisboa Central, Lisboa, Portugal
[2]Department of Obstetrics, Maternidade Alfredo da Costa, Centro Hospitalar Lisboa Central, Lisbon, Portugal

Correspondence to
Dr Célia Pedroso,
celialpedroso@gmail.com

Accepted 19 April 2015

SUMMARY

Nexplanon (Schering-Plough Limited/Merck Sharp & Dohme Limited (MSD)) is a long active reversible contraceptive method that provides effective contraception for 3 years. It consists of a single, flexible, rod-shaped implant, containing 68 mg etonogestrel. It is 4 cm long, consists of an ethylene vinyl acetate copolymer, a non-absorbable material, and also contains 15 mg of barium sulfate, which makes it visible by X-ray. We describe a case of a 39-year-old woman who experienced a local reaction to the barium sulfate in Nexplanon. She was given medical treatment, but only the removal of the implant resolved the symptoms. After removal there was gradual improvement and 72 h later the patient was asymptomatic. Allergic reaction to barium sulfate is extremely rare: until now, there have only been two cases associated with Nexplanon described in the literature.

BACKGROUND

Nexplanon is a long active reversible contraceptive method with progestogen and is effective for 3 years. It consists of a single, flexible, rod-shaped implant, containing 68 mg etonogestrel. It is 4 cm long, consists of an ethylene vinyl acetate copolymer, a nonabsorbable material and contains 15 mg of barium sulfate.[1 2] It was originally marketed under the brand name Implanon (Schering-Plough Limited/Merck Sharp & Dohme Limited (MSD)), but was subsequently modified and marketed as Nexplanon/Implanon NXT. The presence of sulfate barium makes it visible on X-ray and is what differentiates it from Implanon.[2]

Adverse reactions of etonogestrel implants that lead to discontinuation include: abnormal uterine bleeding, emotional instability, weight increase, headache, acne and depression.

Implant site complications were reported by 3.6% of subjects during assessments in clinical trials. Pain was the most frequent implant site complication, reported during and/or after insertion, occurring in 2.9% of subjects. Additionally, haematoma, redness and swelling were reported by 0.1%, 0.3% and 0.3% of patients, respectively.[3]

Allergic reaction to barium sulfate is extremely rare. To date, only two cases associated with Nexplanon have been reported in the literature.

CASE PRESENTATION

A 39-year-old Caucasian woman had a history of etonogestrel non radiopaque (Implanon) implants being placed on two occasions, without adverse effect. She also had a history of allergic reaction to multiple substances: lidocaine, iodine, copper, lithium, mercury, urofloxacin and bromocriptine.

As she was quite satisfied with Implanon, on expiration of the second implant, she went to the family physician for removal and reinsertion of a new one. Nexplanon was placed in the non-dominant arm.

About 48 h after insertion the patient reported erythaema, oedema and local itching at the site of insertion. She was not on any other medication at the time. She was given flucloxacillin 500 mg 8/8 h and cetirizine hydrochloride 10 mg/day for 7 days. She was re-evaluated 3 months later and due to progressive worsening of the symptoms referred to our institution. On observation, there was marked oedema, with erythaema and itching lesions on the inner side of the arm, without bruising or signs of infection.

DIFFERENTIAL DIAGNOSIS

Initially, an implant site reaction was suspected, but as the patient did not respond to the medications we considered an allergic reaction to barium sulfate.

TREATMENT

The patient was started on therapy with topical hydrocortisone (10 mg/g) for 5 days. After 1 week she was revaluated and her symptoms remained the same, so we decided to remove the Nexplanon implant.

There was a gradual improvement in symptoms and 3 days later the patient was asymptomatic.

OUTCOME AND FOLLOW-UP

The patient started taking continuous oral desogestrel 75 µg. At follow-up, 10 months later, she had no signs of inflammatory/allergic reaction or scars in the insertion site of the previous implant.

DISCUSSION

The occurrence of adverse reactions at the site of insertion of implants includes: erythaema (3.3%), haematoma (3%), bruising (2%), pain (1%) and swelling (0, 7%). This is the third case reported in the literature of allergic reaction to the barium sulfate present in Nexplanon.[4 5] There are only two substances that did not exist in the previous etonogestrel implants (Implanon): barium sulfate and magnesium stearate. We know that our patient had taken other medication with magnesium stearate without reaction: gabapentin (neurontin), escitalopram (lexapro) and desogestrel (cerazette). We therefore associated the described allergic reaction of the new radiopaque implant to barium sulfate.

We can consider this hypothesis and be alert to the possibility of occurrence of this type of reaction in women who had previously used Implanon and who recently switched to Implanon.

To cite: Pedroso C, Martins I, Palma F, *et al*. *BMJ Case Rep* Published online: [*please include* Day Month Year] doi:10.1136/bcr-2014-206256

Unexpected outcome (positive or negative) including adverse drug reactions

According to one study, allergic reactions to barium sulfate are rare, occurring in about 2 per million.[6] Barium sulfate in suspension is frequently used clinically as a radiocontrast agent for X-ray imaging and other diagnostic procedures. It is most often used in imaging of the gastrointestinal tract and is administered orally or by enema. Common side effects of barium sulfate are: stomach cramps and incomplete or infrequent bowel movements. Some rare side effects described are: constipation, intense abdominal pain, life threatening allergic reaction, vomiting, difficulty breathing or swallowing, diarrhoea, eczema, hives, itching and redness of skin.[7]

The patient has been informed that she is probably allergic to barium sulfate and was warned of possible future complications from undergoing, for example, imaging examinations involving contrast media. She was also referred to an immunoallergologist consultation, where allergy tests to contrast agents were conducted. The only contrast agent that she was not allergic to was ioversol.

Learning points

- It is important to bear in mind the possibility of allergic reaction to any drug or substance in spite of the fact that it may have been used safely in many patients over many years.
- It is also important to report any new adverse effect of a drug to concerned authorities and in the literature.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

1 http://www.uptodate.com/contents/etonogestrel-contraceptive-implant?detectedLanguage=en&source=search_result&translation=nexplanon&search=nexplanon&selectedTitle=4~29&provider=noProvider acessed on June 2014
2 http://www.merck.com/product/usa/pi_circulars/n/nexplanon/nexplanon_pi.pdf[cited 2014].
3 http://www.accessdata.fda.gov/drugsatfda_docs/label/2009/021529s004lbl.pdf[cited 2014].
4 Chaudry F. Adverse Reaction to Nexplanon (R). *J Fam Plan Reprod Health Care* 2013;39:231–2.
5 Sullivan M. Allergy to Nexplanon®. *J Fam Plan Reprod Health Care* 2012;38:272.
6 Muroi N, Nishibori M, Fujii T, *et al*. Anaphylaxis from the carboxymethylcellulose component of barium sulphate suspension. *N England J Med* 1997;337:1275–7.
7 http://www.nlm.nih.gov/medlineplus/druginfo/meds/a606010.html[cited 2014].