



Impalpable İmplanon Palpe Edilemeyen İmplanon

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Dear Editor;

Implanon® is a contraceptive implant marketed by Organon, which was introduced to the United Kingdom in 1999 (1). Implanon consists of an ethylene vinyl acetate copolymer core, which is a rubber-like plastic material. It contains 68 mg etonogestrel, the active metabolite of desogestrel, which is released at a rate of 60–70 µg/day. The rod is 40 mm in length, and 2 mm in diameter. It provides effective contraception for 3 years. This implant system is inserted under local anaesthesia, subdermally in the groove between the biceps and triceps of the nondominant arm and is normally invisible (2). When inserted properly at the superficial location, the Implanon rod is palpable and its removal is usually quick and easy, using the “pop out” technique via a small incision (3,4).

Imaging tools are used to confirm its presence/absence, and location when the implanted rod is migrated too deeply inserted or even in cases of accidental non-insertion conditions (5). When inserted correctly, the Implanon device lies subcutaneously between the biceps and triceps muscles. About 1 in 1000 implants are not palpable and these are classed as deep implants. They usually lie below fascia and sometimes into the muscle. Implanon is not radio-opaque but can be visualised by Ultrasonography (US) and magnetic resonance imaging (MRI) and experience is gradually accumulating with the use of these techniques for locating impalpable rods (1).

In this letter, we would like to present an evaluation of the removal of impalpable implanon with the help of ultrasound. A 32 lady presented to our clinic with anxiety due to nonpalpable implanon. We examined the patient. Implanon couldn't be palpated. The patient was informed that the implant might be too deep to palpate or perhaps had not left the loading system. The radiologist performed ultrasound. The implanon was not seen. The patient was referred to another hospital for MRI, but implanon was not seen with MRI, either.

After three months, the patient was admitted to

orthopaedy policlinic with arm pain. The radiologist performed US again and detected the impalpable implanon (Figure 1). The anatomical position of the implant was established and the skin was then marked with a marker pen to correspond with each end of the implant in order to facilitate removal.



Figure 1. Impalpable implanon

Impalpable implanon was removed under general anaesthesia. Following routine cleaning of the skin and draping of the arm with sterile cloths, a longitudinal incision was made between the previously made ultrasound skin markings. The size of the incision was between 1.5 and 2 cm (Figure 2). With careful blunt dissection the implanon was first palpated, visually identified and then removed using small mosquito forceps. The wound was reconstituted using subcutaneous absorbable sutures. The patient was discharged after six hours.

Implanon may be impalpable because of inadequate insertion technique (non-insertion) or deep insertion. In this case, the implanon was localized deep into muscle. Implanon is not radio-opaque but can be

visualised by US and MRI; the experience is gradually accumulating with the use of these techniques for locating impalpable rods (1,6).



Figure 2. Incision area for implanon.

Nelson and Sinow were able to remove 64 non-palpable or intramuscular Norplant capsules from 24 female patients between 1992 and 1997 with the use of real-time ultrasound guidance (7). Merki-Feld et al. reported on the use of MRI to locate non-palpable implanon rods that were not detectable ultrasonographically (8). They then stated that they were able to locate a non-palpable implanon rod through MRI only. Westerway et al. found that it was possible to image normally and abnormally placed rods using both ultrasound and MRI (9).

All the Implanon rods were successfully imaged with both ultrasound and MRI. However, the authors stated that MRI requires caution when differentiating blood vessels and fibrous septae from the implants. Sequences that enhance the signal return from fat and muscle will help to differentiate implanon from surrounding tissues. If an implanon is inserted deep into muscle it may be difficult to detect it because of poor tissue differentiation. Here, we recommended ultrasound be used to locate and remove the impalpable implanon. Interestingly MRI did not locate impalpable implanon. But after 3 months US detected impalpable implanon. At this point, it should be stated that formed fibrotic tissue might lead to delays in detecting implanon, as it was detected by way of US 3 months later. General or local anaesthesia can be used to remove impalpable Implanon. The technique has been modified so that general anaesthesia is now reserved for those female patients with implants deeply located in muscle structures. Otherwise, local anaesthesia (2-4 ml 2% lidocaine) is employed for more superficially placed

implants. Nelson and Sinow, used 2% lidocaine with 1:100 000 epinephrine buffered with 8.7% sodium bicarbonate in a 5:1 ratio to neutralise the solution to remove the nonpalpable and intramuscular Norplant capsules (7). They injected the implant under real-time ultrasound guidance. They used various instruments including straight and curved forceps and a nongrasp clamp.

In our case, we used general anaesthesia to remove impalpable implanon because of its deep location in muscles and anxiety of the patient. We used mosquito forceps and nongrasp clamp.

After implanon insertion both patient and inserter should confirm that the implanon is palpable in the arm. The introducer should be checked to ensure that it is emptied. If the implanon is not palpable, this may be due to failure in insertion, deep insertion or migration of the device. MRI did not help us locate the implanon and it was detected by way of US detected only after three months. Formed fibrotic tissue might lead to delays up to 3 months in detecting it by US. Even after three months, US-guided localization and removal of impalpable implanon rods is safe, practical and highly successful.

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