

# Focal brachial cutaneous neuropathy associated with Norplant® use: Suggests careful consideration of the recommended site for inserting contraceptive implants

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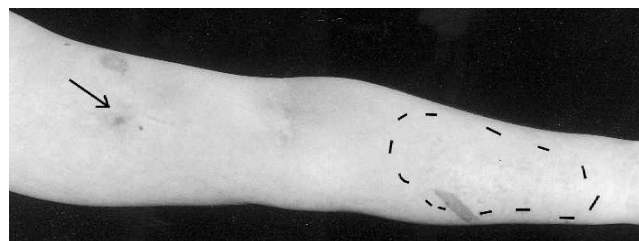
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## Abstract

A case of neuropathy in the medial antebrachial cutaneous nerve of the forearm following a Norplant® removal is described. The incidence of this problem is uncertain. The suggested siting of the contraceptive implants directly over the bicipital groove is questioned.

**Figure 1** Photograph of left arm showing site of Norplant® removal in upper arm and area of hypo-esthesia in the forearm. (A small superficial burn can be seen in the area of hypo-esthesia).



## Key message points

- Insertion and removal of subdermal contraceptive implants may lead to focal brachial neuropathy.
- The suggested siting of contraceptive implants directly over the bicipital groove should be considered carefully.

## Case report

A 33-year-old woman presented to the family planning clinic for a routine removal of Norplant® having had it inserted 5 years previously. She reported that at the time of insertion one of the six capsules gave rise to pain in the arm and was removed and replaced. The implant was sited on the antero-medial aspect at approximately the mid point of the left upper arm, as is standard procedure.<sup>1</sup>

The standard - u - technique under local anaesthetic was used for removal. It was noticed at the time that there was quite marked fibrosis, and one capsule was removed in three pieces. Following the removal the patient was treated with antibiotics as there was thought to be infection present with pain and tenderness. She complained of intermittent paraesthesiae on the inner anterior aspect of the arm and was referred for a neurological opinion.

On examination she was found to have reduced sensation to pin prick in the left arm in the distribution of the medial antebrachial cutaneous nerve of the forearm. Nerve conduction testing demonstrated a consistent and reliable sensory potential in the right medial and lateral antebrachial cutaneous nerves of the forearm, as well as the left lateral antebrachial cutaneous nerve of the forearm. This potential was absent in the left medial antebrachial cutaneous nerve of the forearm, over her site of hypo-esthesia.

No other clinical or neurophysiological disturbance was found in the arm apart from a Tinel's phenomenon when percussing the site of the Norplant® removal, which radiated to the site of the symptoms in the territory of the medial antebrachial cutaneous nerve of the forearm.

## Discussion

The medial antebrachial cutaneous nerve of the forearm is derived from the T1 and T2 nerve roots and lower aspect of

the brachial plexus. It subserves sensation to the inner aspect of the forearm and serves no motor function. Neuropathy confined to this specific nerve is rare, and is more commonly involved in lower brachial plexus entrapments, injuries and invasions which may enter into the differential diagnosis of the injury.

Neuropathies associated with the use of contraceptive implants have not been commonly reported but case reports have described neuropathy to the ulnar nerve, the musculo-cutaneous nerve and the 'antebrachial cutaneous' nerve in Norplant® users.<sup>2-5</sup>

These reports draw attention to the importance of correctly siting implants, particularly noting possible problems related to superficial, deep or proximal placement.

The medial antebrachial cutaneous nerve of the forearm becomes cutaneous in the medial bicipital furrow at about the midpoint of the arm.<sup>6</sup> This is in such close proximity to the siting of contraceptive implants that it is surprising that this neuropathy has not been more commonly described, particularly as neuropathic disturbance is frequently caused by associated infection and fibrosis rather than direct trauma, as may have occurred in our present case. This may reflect under-reporting. The clinical department of the licence holder of Norplant® in the UK has received 36 other reports of possible cases of paraesthesiae associated with Norplant®, but in most cases there was little detail and no formal neurological investigation.<sup>7</sup>

It is reassuring to note that to date no neuropathies have been described in association with the use of Implanon®. The suggested site of fitting of this single rod is 6-8 cm above the elbow fold overlying the bicipital groove.<sup>8,9</sup> This directly overlies the neurovascular bundle and is in close proximity to the medial antebrachial cutaneous nerve of the forearm. The stated advantage with this site is that there is less risk of the implant migrating as it is not directly over muscle.

Nevertheless, some clinicians may feel that fitting Implanon® a little anterior to the groove, over the biceps, is safer.

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