

CORRESPONDENCE

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Recurrence of Preoperative Painful Sensation during Brachial Plexus Block

To the Editor:—Although regional anesthesia can exacerbate phantom limb pain in amputees, the recurrence of preoperative pain in patients without history of amputation and who have underwent surgery during brachial plexus block has not been described.

A healthy 39-yr-old woman, ASA physical status I, was scheduled for an arthrolysis of the first proximal interphalangeal joint of the second left finger. She had a history of septic arthritis treated surgically during general anesthesia 1 yr previously. Ankylosis of the joint then progressively developed, and active physiotherapy was ineffective to inhibit progression. She did not complain of any neuropathy. The patient received neither premedication nor sedation in the operating room, and an humeral canal block¹ was performed with a nerve stimulator (Stimuplex Dig, B. Braun, Germany) and an isolated needle (Stimuplex Kanüle A 50 mm). A mixture of 20 ml of plain bupivacaine, 0.5%, and 20 ml of lidocaine, 1%, with epinephrine was injected. Pin-prick and blunt stimulus were tested at four sites (ulnar, median, radial, and musculocutaneous area) on the hand and the forearm 20 min after the injection; there was anesthesia in all sites. A tourniquet was inflated to 300 mmHg and was not described as painful by the patient. The surgical incision was without any difficulty, and the patient was quiet; 10 min later she complained of increasing pain. The surgeon stopped the procedure, but the pain did not abate. She spontaneously described the painful sensation as not being related to the surgical wound but being similar to the pain that occurred during movement of her finger during the physiotherapy. Alfentanil, 0.5 mg, was intravenously infused and immediately relieved her pain. Surgical resumed and proceeded uneventfully. The postoperative period was unremarkable, and she was discharged the next day.

The recurrence of chronic and particularly phantom pain in patients operated on during regional anesthesia has been well described.²⁻⁴ The "recalled" pain described in our patient may be related to a similar mechanism. There are two neurophysiologic theories for the mechanism of phantom pain:

1. Peripheral: pain depends on activity in nociceptors or nociceptors fibers; and
2. Central:
 - A. Pain involves changes in central neurons after loss of afferents resulting from lesions in the peripheral nervous system; and

- B. The central changes caused by loss of afferents might involve either or both excitatory and inhibitory mechanisms of the central neurons.⁵

Relief of pain by intravenous alfentanil in our patient when the tourniquet was inflated argues for a central origin of these symptoms. The successful use of intravenous lidocaine for managing phantom limb pain reactivated by a brachial plexus block is consistent with this finding.⁴ Alternatively, one can postulate a differential block between fibers A beta and C fiber; this mechanism was suggested to explain phantom limb pain during epidural anesthesia⁵ or other painful sensations during spinal anesthesia.⁶

Our case report suggests a need for clinical investigations about "recalled" pain sensations appearing during regional anesthesia that are not related to phantom pain.

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