Nerve block

Or regional nerve blockade is any deliberate interruption of signals traveling along a nerve, often for the purpose of pain relief.

Local anesthetic nerve block (sometimes referred to as simply “nerve block”) is a short-term block, usually lasting hours or days, involving the injection of an anesthetic, a corticosteroid and other agents onto or near a nerve.

Neurectomy, the cutting through or removal of a nerve or a section of a nerve, usually produces a permanent block. Because neurectomy of a sensory nerve is often followed, months later, by the emergence of new, more intense pain, sensory nerve neurectomy is rarely performed.

In patients with focal nerve injury and neuropathic pain cutting the nerve to obtain permanent pain reduction can be considered. Surgery is indicated only if a diagnostic nerve block provides temporary pain relief.

Malessy et al. from the Department of Neurosurgery, Department of Neurology, Department of Statistics, Department of Anaesthesiology Leiden University Medical Center, Department of Neurology, Alrijne Hospital Leiden The Netherlands, Neurological Center at the American British Cowdray Medical Center, Mexico City, Mexico, Department of Neurosurgery, Stanford University School of Medicine, Stanford, California, United States of America, evaluated the predictive value of a block on the outcome of surgery.

In total, three blocks were performed at two week intervals. Patients were blinded to injections containing lidocaine 1% and a placebo was included. Surgery was offered regardless of the effect of the blocks. Twenty-four patients received 72 blocks. Sixteen patients opted for surgery, 5 patients refrained from surgery, and in 3 the blocks provided permanent pain relief. The predictive ability of the block on the outcome of surgery was assessed by calculating the area under a Receiver Operating Characteristic curve (AUC).

The AUC of the first lidocaine block was 0.35 with a 95% confidence interval from 0.077 to 0.62. At 95% confidence (two-sided), the AUC is less than 0.62, and hence the predictive ability of the block was poor. The outcome of the second lidocaine block and saline block did not change the conclusion of the first block.

They conclude that the use of blocks to select patients for surgery should be critically appraised.

A pain relieving response to one open block is currently considered mandatory before patients with focal nerve injury and neuropathic pain are offered surgery. Blinded blocks including a placebo show that responses for selection should be carefully interpreted because they may not be as predictive as generally presumed [1)].

Neurolytic block

see Neurolytic block.

Lateral femoral cutaneous nerve block

see Lateral femoral cutaneous nerve block.

Occipital nerve block

see Occipital nerve block.

Sympathetic nerve block

Sympathetic nerve block

Ultrasonography-guided nerve block

Ultrasonography-guided nerve block

1)

Malessy MJA, de Boer R, Muñoz Romero I, Eekhof JLA, van Zwet EW, Kliot M, Dahan A, Pondaag W. Predictive value of a diagnostic block in focal nerve injury with neuropathic pain when surgery is considered. PLoS One. 2018 Sep 12;13(9):e0203345. doi: 10.1371/journal.pone.0203345. eCollection 2018. PubMed PMID: 30208078.

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