

The Effect of Ice in Pain Control before Digital Nerve Block

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Abstract : Introduction: Pain is a complex physiological reaction to tissue injury. In the course of painful procedures such as nerve block, ice has been shown to be a feasible and inexpensive material to control pain. It delays nerve conduction, activates other senses and reduces inflammatory and painful responses. This study assessed the effect of ice in reducing pain caused by needling and infiltration during digital block. Patient satisfaction recorded as a secondary outcome. Methods: This study was designed as a non-blinded randomized clinical trial approved by Tehran University of Medical Sciences Ethical Committee. Informed consent was taken from all the participants who were then randomly divided into two groups. Digital block performed by standard approach in selected patients. Tubes of ice were prepared in gloves and were fragmented at a time of application for circling around the finger. Tubes were applied for 6 minutes before digital nerve block in the site of needling in the case group. Patients in the control group underwent digital nerve block with the conventional method without ice administration. Numeric Rating Scale (NRS) used for grading pain. 0 used for no pain and 10 for the worst pain that patient had experienced until now. Scores were analyzed by Wilcoxon Rank Sum test and compared in case and control groups. Results: 100 patients aged 16-50 years were enrolled. Mean NRS scores with and without ice were 1.5 mm (S.D \pm 1.44) and 6.8 mm (S.D \pm 1.40) for needling pain and for infiltration pain were 2.7mm (S.D \pm 1.65) and 8.5mm (S.D \pm 1.47), respectively ($p < 0.001$). Besides, patients' satisfactions were significantly higher in the ice group ($p < 0.001$). Conclusion: Application of ice for 6 minutes significantly reduced pain of needling and infiltration in digital nerve block; thus, it seems to be a feasible and inexpensive material which acts effectively to decrease pain and stress before the procedure.

Keywords : digital block, ice, needle, pain

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