

PRE-LOCAL ANAESTHESIA USAGE OF ICE PACK OR ETHYL CHLORIDE TO REDUCE NEEDLE SITE PAIN PRIOR TO HAND SURGICAL PROCEDURES

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INTRODUCTION:

Cold therapy is often used prior to local anaesthesia injections to reduce injection pain. To date, no study has been done on the analgesic efficacies of ice cubes and ethyl chloride spray to reduce local anaesthetic needle pain prior to hand surgeries. We decided to embark on this study to determine the effectiveness of ice pack application prior to local anaesthesia injections for palmar procedures in reducing pain in comparison to ethyl chloride spray.

METHODS:

A prospective, randomised controlled study was conducted. Subjects were recruited from patients planned for procedures of the palm which required the injection of local anaesthesia. Patients who were above 18 years without prior hand surgery and had been planned for surgical procedure over the palm under local anaesthesia, eg: trigger finger release, carpal tunnel release, excision biopsy were included in the study.

Participants were randomised into two study groups (ice cube, ethyl chloride group) using block randomisation. Depending on the group, either ice cube (3 minutes) or ethyl chloride spray was applied on the hand prior to injection of local anaesthetic. The Visual analog scale (VAS) and Injection Phobia scale – anxiety (IPS-Anx) score was used to assess the patient’s pain perception and anxiety level during the procedure. The Short assessment of Patient Satisfaction (SAPS) is used to assess patient satisfaction with their treatment.

RESULTS:

Result showed no significance between the two groups in the reduction of pain ($p=0.79$). Both groups indicated a satisfactory score (mean of 22.25 vs 22.26) in the SAPS with no significant difference between the two groups. ($p=0.98$)

Mean	Ice	Ethyl Chloride	P value
VAS	3.5	3.67	0.79
SAPS	22.25	22.26	0.98

CONCLUSION:

Ice cube application provides a similar pain reduction efficacy prior to local anaesthetic injection of the hand. It is recommended to use ice cube since it is more easily available and easily applied. Similar satisfaction level was appreciated among participants in both group

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