



Oral Presentation

The Effective Technique for Reducing Pain During Propofol Injection between Lidocaine Pretreatment with Venous Occlusion (Tourniquet) and Lidocaine-Propofol Mixture : A Randomized Controlled Trial

Sukalin Inprasit, Chakthip Suttinarakorn, Maneerat Thananun, Wilawan Somdee,

Duangthida Nonlhaopol

Department of Anesthesiology, Khon Kaen University, Khon Kaen 40002, Thailand

*Corresponding author, E-mail: sukalinka@gmail.com

Background and objective : Various methods have been attempted to reduce propofol injection pain, adding lidocaine to propofol is the most popular method. Also various methods of adding lidocaine have been used i.e. lidocaine pretreatment with venous occlusion(tourniquet) and lidocaine-propofol mixture, but it is unclear which methods is more effective. There for, this study objective was to compare the effectiveness between lidocaine pretreatment with venous occlusion(tourniquet) and lidocaine-propofol mixture for reducing propofol injection pain

Methods : This randomized controlled trial compared 3 groups; a control group (NSS pretreatment/NSS mixture; n=47), a pretreatment group (lidocaine pretreatment/NSS mixture; n=49), a mixture group (NSS pretreatment/lidocaine mixture; n=48). The primary outcome was the numeric rating pain score after propofol injection. And the secondary outcomes were the correlation between vessel diameter and numeric rating pain score and the satisfaction of the patient to each method of treatment.

Result : The median (interquartile range) numeric rating pain score after study were as follow; control group: 3 (0-10), pretreatment group: 0 (0-5) and mixture group: 1 (0-8). The pretreatment group had significantly lower pain score when compared with mixture group ($p=0.032$), and both groups were superior to the control group ($p<0.001$). Vessel diameter was also correlated with numeric rating pain score that when increased 1 mm of vessel diameter the pain score decreased by 2.18 score (mean difference -2.18, 95%CI (-3.17, -1.19), $p<0.001$). The pretreatment group had more patient's satisfaction than mixture group (most satisfied level 93.88% vs. 70.83%, moderate satisfied level 6.12% vs. 25%, low satisfied level 0% vs. 4.17% and not satisfied level are at the same at 0%)

Conclusions : lidocaine pretreatment with venous occlusion(tourniquet) is statistically superior to lidocaine-propofol mixture for reducing pain during propofol injection, but not clinically significant. However, pretreatment satisfied the patient more than mixture method. And larger vessel diameter is also statistical significantly reducing pain during propofol injection.

Keywords : propofol pain; lidocaine; tourniquet