

Supplementary file 3

References of included trials (in alphabetical order)

1. Adam S, van Bommel J, Pelka M, Dirckx M, Jonsson D, Klein J. Propofol-induced injection pain: comparison of a modified propofol emulsion to standard propofol with premixed lidocaine. *Anesth Analg* 2004;99:1076-9.
2. Agarwal A, et al. Pain during injection of propofol: the effect of prior administration of ephedrine. *Anaesth Intensive Care* 2004;32:657-60.
3. Agarwal A, et al. Pain during injection of propofol: the effect of prior administration of butorphanol. *Anesth Analg* 2004;99:117-9. (b)
4. Agarwal A, et al. Vein pretreatment with magnesium sulfate to prevent pain on injection of propofol is not justified. *Can J Anaesth* 2004;51:130-3.
5. Agarwal A, et al. Pretreatment with thiopental for prevention of pain associated with propofol injection. *Anesth Analg* 2004;98:683-6. (a)
6. Aggarwal S, Kumar M, Sharma V. A single-centre randomized-controlled trial to study effect of dilution on propofol-induced injection pain at injection site. *Saudi J Anaesth* 2011;5:282-5.
7. Ahmad N, Zanariah Y, Balan S. Fentanyl pre-treatment alleviates pain during injection of propofol-lipuro premixed with lignocaine. *Med J Malaysia* 2008;63:431-3.
8. Ahmed A, Sengupta S, Das T, Rudra A, Iqbal A. Pre-treatment with intravenous granisetron to alleviate pain on propofol injection: A double-blind, randomized, controlled trial. *Indian J Anaesth* 2012;56:135-8.
9. Aldrete JA, et al. Pain on injection from propofol may be avoided by changing its formulation. *Acta Anaesthesiol Scand* 2009;54:442-6.
10. Allford MA, Mensah JA. Discomfort on injection: a comparison between two formulations of propofol. *Eur J Anaesthesiol* 2006;23:971-4.
11. Al-Refai R, Al-Mujadi H, Petrova Ivanova M, Marzouk HM, Batra YK, Al-Qattan AR. Prevention of pain on injection of propofol: a comparison of remifentanil with alfentanil in children. *Minerva Anestesiol* 2007;73:219-23.
12. Aouad MT, Siddik-Sayyid SM, Al-Alami AA, Baraka AS. Multimodal analgesia to prevent propofol-induced pain: pretreatment with remifentanil and lidocaine versus remifentanil or lidocaine alone. *Anesth Analg* 2007;104:1540-4.
13. Apiliogullari S, Keles B, Apiliogullari B, Balasar M, Yilmaz H, Duman A. Comparison of diphenhydramine and lidocaine for prevention of pain after injection of propofol: a double-blind, placebo-controlled, randomized study. *Eur J Anaesthesiol* 2007;24:235-8.
14. Ashwani H. A comparative study of lignocaine, thiopentone and tramadol to relieve the pain on intravenous injection of propofol - A double blind randomised prospective study. *J Anaesth Clin Pharmacol* 2009;25:289-292.
15. Asik I, Yorukoglu D, Gulay I, Tulunay M. Pain on injection of propofol: comparison of metoprolol with lidocaine. *Eur J Anaesthesiol* 2003;20:487-9.

16. Austin JD, Parke TJ. Admixture of ephedrine to offset side effects of propofol: a randomized, controlled trial. *J Clin Anesth* 2009;21:44-9.
17. Ayatollahi V, Behdad S, Kargar S, Yavari T. Comparison of effects of ephedrine, lidocaine and ketamine with placebo on injection pain, hypotension and bradycardia due to propofol injection: a randomized placebo controlled clinical trial. *Acta Med Iran* 2012;50:609-14.
18. Ayoglu H, Altunkaya H, Ozer Y, Yapakci O, Cukdar G, Ozkocak I. Does dexmedetomidine reduce the injection pain due to propofol and rocuronium? *Eur J Anaesthesiol* 2007;24:541-5.
19. Azma T, Kawai K, Tamura H, Okada K, Okida M. Comparative benefit of preemptively applied thiopental for propofol injection pain: the advantage over lidocaine. *Hiroshima J Med Sci* 2004;53:13-6.
20. Bachmann-Mennenga B, Ohlmer A, Boedecker RH, Mann M, Muhlenbruch B, Heesen M. Preventing pain during injection of propofol: effects of a new emulsion with lidocaine addition. *Eur J Anaesthesiol* 2007;24:33-8.
21. Barbi E, et al. Pretreatment with intravenous ketamine reduces propofol injection pain. *Paediatr Anaesth* 2003;13:764-8.
22. Bashir A, et al. A prospective randomized open labelled placebo controlled study comparing intravenous lignocaine and tramadol in reducing the incidence and severity of pain on propofol injection. *JK Science* 2011;13:119-23.
23. Beh T, Splinter W, Kim J. In children, nitrous oxide decreases pain on injection of propofol mixed with lidocaine. *Can J Anaesth* 2002;49:1061-3.
24. Beyaz SG, T Fek A, Tokgoz O. The effect of propofol lipuro with and without lidocaine on injection pain in children. *Niger J Clin Pract* 2011;14:60-4.
25. Beyaz SG, Eman A. Injection pain of propofol in children: A comparison of two formulations without added lidocaine. *J Anaesthesiol Clin Pharmacol* 2012;28:314-7.
26. Borazan H, Erdem TB, Kececioglu M, Otelcioglu S. Prevention of pain on injection of propofol: a comparison of lidocaine with different doses of paracetamol. *Eur J Anaesthesiol* 2010;27:253-7.
27. Borazan H, Sahin O, Kececioglu A, Uluer MS, Et T, Otelcioglu S. Prevention of propofol injection pain in children: A comparison of pretreatment with tramadol and propofol-lidocaine mixture. *Int J Med Sci* 2012;9:492-7.
28. Brock MF, Grace BE, Morley B, Hillegass G, Houle TT, Groban L. Does lidocaine more effectively prevent pain upon induction with propofol or etomidate when given preemptively than when mixed with the drug? *J Clin Anesth* 2010;22:505-9.
29. Burimsittichai R, Kumwilaisuk K, Charuluxananan S, Tingthanathikul W, Premsamran P, Sathapanawath N. Pain on injection of propofol: propofol LCT vs propofol MCT/LCT with or without lidocaine pretreatment. *J Med Assoc Thai* 2006;89 Suppl 3:S86-91.
30. Canbay O, Celebi N, Arun O, Karagoz AH, Saricaoglu F, Ozgen S. Efficacy of intravenous acetaminophen and lidocaine on propofol injection pain. *Br J Anaesth* 2008;100:95-8.
31. Chae YJ, Min SK, Park SK, Kim SM, Won YJ, Cho HB. Reduction of microemulsion propofol-induced injection pain via target-controlled remifentanil infusion. *J Int Med Res* 2011;39:2151-7.

32. Chaudhary K, Gupta P, Gogia AR. A prospective, randomized, double-blind study to compare the efficacy of lidocaine + metoclopramide and lidocaine + ketamine combinations in preventing pain on propofol injection. *J Anesth* 2013;27:402-6.
33. Cheong MA, Kim KS, WJ C. Ephedrine reduces the pain from propofol injection. *Anesth Analg* 2002;95:1293-6.
34. Cho SY, Jeong CW, Jeong CY, Lee HG. Efficacy of the combination of cold propofol and pretreatment with remifentanil on propofol injection pain. *Korean J Anesthesiol* 2010;59:305-9.
35. Chohedri AH, Seyedi M, Masjedi M. Propofol induced pain; comparison between effects of lidocaine-propofol mixture and metoclopramide premedication. *Professional Med J* 2008;15:205-10.
36. Chung DH, Kim NS, Lee MK, HK J. The effect and optimal dose of sufentanil in reducing injection pain of microemulsion propofol. *Korean J Anesthesiol* 2011;60:83-9.
37. Davies AF, Vadodaria B, Hopwood B, Dexter T, Conn D. Efficacy of microfiltration in decreasing propofol-induced pain. *Anaesthesia* 2002;57:557-61.
38. Dedic A, Adam S, Gommers D, Van Bommel J. Propofol injection pain: is it still an issue? The effect of premedication. *Minerva Anestesiol* 2010;76:720-4.
39. DeSousa K, Ali MS. Sevoflurane to alleviate pain on propofol injection. *J Anesth* 2011;25:879-83.
40. Dubey PK, Kumar A. Pain on injection of lipid-free propofol and propofol emulsion containing medium-chain triglyceride: a comparative study. *Anesth Analg* 2005;101:1060-2.
41. Dubey PK, Prasad SS. Pain on injection of propofol: the effect of granisetron pretreatment. *Clin J Pain* 2003;19:121-4.
42. El-Radaideh KM. Effect of pretreatment with lidocaine, intravenous paracetamol and lidocaine-fentanyl on propofol injection pain. Comparative study. *Rev Bras Anestesiol* 2007;57:32-8.
43. Erden V. [The effect of nicotine treatment on propofol injection pain.]. *Trakya Univ Tip Fak Derg* 2010;27:18-22.
44. Erdil FA. Does single dose premedication of dexmedetomidine reduce pain during injection of propofol? *Pain Clinic* 2007;19:21-25.
45. Fahringer DL, et al. The effect of a 3 : 1 volume mixture of propofol 1% and thiopental 2.5% in reducing the pain on injection of propofol in children. *Paediatr Anaesth* 2010;20:545-52.
46. Ghai B, Makkar JK, Bala I, Wig J. Effect of parecoxib pretreatment and venous occlusion on propofol injection pain: a prospective, randomized, double-blinded, placebo-controlled study. *J Clin Anesth* 2010;22:88-92.
47. Goel AV. Analgesic effect of lignocaine, tramadol, ketorolac and ketoprofen in ameliorating propofol injection pain. *J Anaesth Clin Pharmacol* 2005;21:389-93.
48. Grauers A, Liljeroth E, Akeson J. Propofol infusion rate does not affect local pain on injection. *Acta Anaesthesiol Scand* 2002;46:361-3.
49. Han YK, Jeong CW, Lee HG. Pain reduction on injection of microemulsion propofol via combination of remifentanil and lidocaine. *Korean J Anesthesiol* 2010;58:435-9.

50. Harmon D, Rozario C, Lowe D. Nitrous oxide/oxygen mixture and the prevention of pain during injection of propofol. *Eur J Anaesthesiol* 2003;20:158-61.
51. Hellier C, Newell S, Barry J, Brimacombe J. A 5-microm filter does not reduce propofol-induced pain. *Anaesthesia* 2003;58:802-3.
52. Honarmand A, Safavi M. Prevention of propofol-induced injection pain by sufentanil: a placebo-controlled comparison with remifentanil. *Clin Drug Investig* 2008;28:27-35.
53. Honarmand A. Magnesium sulphate pretreatment to alleviate pain on propofol injection: A comparison with ketamine or lidocaine. *Acute Pain* 2008;10:23-29.
54. Huang YW, et al. Effect of pretreatment with ketorolac on propofol injection pain. *Acta Anaesthesiol Scand* 2002;46:1021-4.
55. Hwang I. Prevention of pain with the injection of microemulsion propofol: A comparison of a combination of lidocaine and ketamine with lidocaine or ketamine alone. *Korean J Anesthesiol* 2010;59:233-237.
56. Ishiyama T, Kashimoto S, Oguchi T, Furuya A, Fukushima H, Kumazawa T. Clonidine-ephedrine combination reduces pain on injection of propofol and blunts hemodynamic stress responses during the induction sequence. *J Clin Anesth* 2006;18:211-5.
57. Iwata M, et al. Ketamine eliminates propofol pain but does not affect hemodynamics during induction with double-lumen tubes. *J Anesth* 2009;24:31-7.
58. Iyilikci L, Balkan BK, Gokel E, Gunerli A, Ellidokuz H. The effects of alfentanil or remifentanil pretreatment on propofol injection pain. *J Clin Anesth* 2004;16:499-502.
59. Jeon Y. Reduction of pain on injection of propofol: combination of nitroglycerin and lidocaine. *J Anesth* 2012;26:728-31.
60. Kaabachi O, Chettaoui O, Ouezini R, Abdelaziz AB, Cherif R, Kokki H. A ketamine-propofol admixture does not reduce the pain on injection compared with a lidocaine-propofol admixture. *Paediatr Anaesth* 2007;17:734-7.
61. Kam E, Abdul-Latif MS, McCluskey A. Comparison of Propofol-Lipuro with propofol mixed with lidocaine 10 mg on propofol injection pain. *Anaesthesia* 2004;59:1167-9.
62. Kaya FN. Esmolol reduces pain on injection of propofol. *The Pain Clinic* 2006;18:361-66.
63. Kaya S. Lidocaine for prevention of propofol injection-induced pain: a prospective, randomized, double-blind, controlled study of the effect of duration of venous occlusion with a tourniquet in adults. *Curr Ther Res* 2008;69:29-35.
64. Khezri MB, Kayalha H. The effect of combined ephedrine and lidocaine pretreatment on pain and hemodynamic changes due to propofol injection. *Acta Anaesthesiol Taiwan* 2011;49:54-8.
65. Kim HS, et al. Prevention of pain during injection of microemulsion propofol: application of lidocaine mixture and the optimal dose of lidocaine. *Korean J Anesthesiol* 2010;59:310-3.
66. Kim SY, Jeong DW, Jung MW, Kim JM. Reduction of propofol injection pain by utilizing the gate control theory. *Korean J Anesthesiol* 2011;61:288-91.
67. Kirdemir P. [Comparison of various drugs and techniques in the prevention of propofol injection pain]. *Gulhane Medical Journal* 2002;44:149-153.
68. Kodaka M, Okuyama S, Maeyama A, Koyama K, Miyao H. Evaluation of low-dose propofol preadministration to attenuate vascular pain during induction of anesthesia. *J Clin Anesth* 2007;19:440-3.

69. Koo SW, Cho SJ, Kim YK, Ham KD, Hwang JH. Small-dose ketamine reduces the pain of propofol injection. *Anesth Analg* 2006;103:1444-7.
70. Krobbuaban B, et al. Does addition of lidocaine to medium- and long-chain triglyceride propofol emulsions significantly reduce pain on injection? *J Med Assoc Thai* 2008;91:383-7.
71. Krobbuaban B, Diregpoke S, Kumkeaw S, Tanomsat M. Comparison on pain on injection of a small particle size-lipid emulsion of propofol and standard propofol with or without lidocaine. *J Med Assoc Thai* 2005;88:1401-5.
72. Kunitz O, Losing R, Schulz-Stubner S, Haaf-Von-Below S, Rossaint R, Kuhlen R. [Propofol-LCT versus propofol-MCT/LCT with or without lidocaine - a comparison on pain on injection]. *Anasthesiol Intensivmed Notfallmed Schmerzther* 2004;39:10-4. German.
73. Kwak HJ, Min SK, Kim JS, Kim JY. Prevention of propofol-induced pain in children: combination of alfentanil and lidocaine vs alfentanil or lidocaine alone. *Br J Anaesth* 2009;103:410-2.
74. Kwak KH, Ha J, Kim Y, Jeon Y. Efficacy of combination intravenous lidocaine and dexamethasone on propofol injection pain: a randomized, double-blind, prospective study in adult Korean surgical patients. *Clin Ther* 2008;30:1113-9.
75. Kwak K, et al. A combination of lidocaine (lignocaine) and remifentanil reduces pain during propofol injection. *Clin Drug Investig* 2007;27:493-7.
76. Kwak K, et al. Reduction of pain on injection of propofol: combination of pretreatment of remifentanil and premixture of lidocaine with propofol. *Eur J Anaesthesiol* 2007;24:746-50.
77. Kwon JS, Kim ES, Cho KB, et al. Incidence of propofol injection pain and effect of lidocaine pretreatment during upper gastrointestinal endoscopy. *Dig Dis Sci* 2012;57:1291-7.
78. Lee JR. Reduction of pain during induction with target-controlled propofol and remifentanil. *Br J Anaesth* 2007;99:876-880.
79. Lee P. Preventing pain on injection of propofol: a comparison between lignocaine pre-treatment and lignocaine added to propofol. *Anaesth Intensive Care* 2004;32:482-484.
80. Lembert N, Wodey E, Geslot D, Ecoffey C. [Prevention of pain on injection with propofol in children: comparison of nitrous oxide with lidocaine]. *Ann Fr Anesth Reanim* 2002;21:263-70. French.
81. Liljeroth E, Akeson J. Less local pain on intravenous infusion of a new propofol emulsion. *Acta Anaesthesiol Scand* 2005;49:248-51.
82. Liljeroth E, Karlsson A, Lagerkranser M, Akeson J. Low-dose propofol reduces the incidence of moderate to severe local pain induced by the main dose. *Acta Anaesthesiol Scand* 2007;51:460-3. (b)
83. Liljeroth E, Karlsson A, Lagerkranser M, Akeson J. Sustained intravascular exposure to propofol does not prolong pain at the site of injection. *Acta Anaesthesiol Scand* 2007;51:456-9. (a)
84. Madenoglu H. Efficacy of different doses of lidocaine in the prevention of pain due to propofol injection: a randomized, open-label trial in 120 patients. *Curr Ther Res* 2003;64:310-16.

85. Mallick A, Elliot SC, Krishnan K, Vucevic M. Lidocaine is more efficient than the choice of propofol formulations to reduce incidence of pain on induction. *Eur J Anaesthesiol* 2007;24:403-7.
86. Massad IM, Abu-Ali HM, Abu-Halaweh SA, Badran IZ. Venous occlusion with lidocaine for preventing propofol induced pain. A prospective double-blind randomized study. *Saudi Med J* 2006;27:997-1000.
87. Massad IM, Abu-Ali HM, Al-Ghanem SA, Badran IZ, Ammari BA, Daradkeh SS. Duration of venous occlusion with lidocaine for preventing propofol induced pain. *Saudi Med J* 2008;29:971-4.
88. McCluskey A, Currer BA, Sayeed I. The efficacy of 5% lidocaine-prilocaine (EMLA) cream on pain during intravenous injection of propofol. *Anesth Analg* 2003;97:713-4.
89. Memis D, Turan A, Karamanlioglu B, Kaya G, Pamukcu Z. The prevention of propofol injection pain by tramadol or ondansetron. *Eur J Anaesthesiol* 2002;19:47-51.
90. Memis D, Turan A, Karamanlioglu B, Sut N, Pamukcu Z. The use of magnesium sulfate to prevent pain on injection of propofol. *Anesth Analg* 2002;95:606-8.
91. Minogue SC, Sun DA. Bacteriostatic saline containing benzyl alcohol decreases the pain associated with the injection of propofol. *Anesth Analg* 2005;100:683-6.
92. Mohite SN, Kudalkar AG, Dalvi NP. A comparative study of premixed lipid free propofol and lignocaine versus lipid emulsion of propofol in conscious sedation. *J Anaesth Clin Pharmacol* 2010;26:303-6.
93. Mohta M, Agarwal D, Sethi AK, Sandhu K. Effect of diclofenac pretreatment on pain during propofol injection. *Anaesth Intensive Care* 2004;32:765-9.
94. Niazi A, Galvin E, Elsaigh I, Wahid Z, Harmon D, Leonard I. A combination of lidocaine and nitrous oxide in oxygen is more effective in preventing pain on propofol injection than either treatment alone. *Eur J Anaesthesiol* 2005;22:299-302.
95. Nishiyama T. How to decrease pain at rapid injection of propofol: effectiveness of flurbiprofen. *J Anesth* 2005;19:273-6.
96. Nyman Y, von Hofsten K, Georgiadi A, Eksborg S, Lonnqvist PA. Propofol injection pain in children: a prospective randomized double-blind trial of a new propofol formulation versus propofol with added lidocaine. *Br J Anaesth* 2005;95:222-5.
97. Nyman Y, Von Hofsten K, Palm C, Eksborg S, Lonnqvist PA. Etomidate-Lipuro is associated with considerably less injection pain in children compared with propofol with added lidocaine. *Br J Anaesth* 2006;97:536-9.
98. Ohmizo H, Obara S, Iwama H. Mechanism of injection pain with long and long-medium chain triglyceride emulsive propofol. *Can J Anaesth* 2005;52:595-9.
99. Ozkocak I, Altunkaya H, Ozer Y, Ayoglu H, Demirel CB, Cicek E. Comparison of ephedrine and ketamine in prevention of injection pain and hypotension due to propofol induction. *Eur J Anaesthesiol* 2005;22:44-8.
100. Oztekin S, Olguner C, Akan M, Cinar O, Girgin F. The effect of lidocaine on injection pain of different propofol concentrations in patients receiving remifentanyl. *Turkiye Klinikleri J Med Sci* 2011;31:1082-6. Turkish.
101. Pang WW, Mok MS, Wang CS, Yeh M, Chang DP. Can neostigmine reduce propofol injection pain? *Acta Anaesthesiol Sin* 2002;40:65-9.

102. Pollard RC, Makky S, McFadzean J, Ainsworth L, Goobie SM, Montgomery CJ. An admixture of 3 mg x kg(-1) of propofol and 3 mg x kg(-1) of thiopentone reduces pain on injection in pediatric anesthesia. *Can J Anaesth* 2002;49:1064-9.
103. Rochette A, et al. Avoiding propofol injection pain in children: a prospective, randomized, double-blinded, placebo-controlled study. *Br J Anaesth* 2008;101:390-4.
104. Rodrigues TA, Alexandrino RA, Kanczuk ME. A comparative study of non-lipid nanoemulsion of propofol with solutol and propofol emulsion with lecithin. *Rev Bras Anestesiol* 2012;62:325-34.
105. Saadawy I, Ertok E, Boker A. Painless injection of propofol: pretreatment with ketamine vs thiopental, meperidine, and lidocaine. *Middle East J Anesthesiol* 2007;19:631-44.
106. Salman AE, Salman MA, Saricaoglu F, Akinci SB, Aypar U. Pain on injection of propofol: a comparison of methylene blue and lidocaine. *J Clin Anesth* 2011;22:270-4.
107. Saritas TB, Borazan H, Kara I, Otelcioglu S. Determining the effect of sufentanil of propofol injection pain. *Kuwait Med J* 2012;44:121-4.
108. Schaub E, Kern C, Landau R. Pain on injection: a double-blind comparison of propofol with lidocaine pretreatment versus propofol formulated with long- and medium-chain triglycerides. *Anesth Analg* 2004;99:1699-702.
109. Sen H. The effects of propofol concentration on propofol injection pain. *Anatol J Clin Investig* 2009;3:127-130.
110. Sen H. Effect of saline dilution on propofol injection pain: comparison with lidocaine. *Turkiye Klinikleri J Med Sci* 2009;29:150-154. Turkish.
111. Sethi N, Jayaraman L, Sethi M, Sharma S, Sood J. Prevention of propofol pain: a comparative study. *Middle East J Anesthesiol* 2009;20:71-4.
112. Sharpe P, Asif M, Victoria A, Rowbotham DJ. Iontophoretically applied lidocaine and the prevention of pain associated with the injection of intravenous propofol: a comparison with intravenous lidocaine. *Eur J Anaesthesiol* 2002;19:170-2.
113. Shimizu T. Rapid injection of propofol reduces vascular pain and facilitates Laryngeal Mask Airway insertion. *Journal of Clinical Anesthesia* 2011;23:540-543.
114. Sim JY, et al. Pain on injection with microemulsion propofol. *Br J Clin Pharmacol* 2009;67:316-25.
115. Singh SS, Tapir A, Singh NR, Singh LPK, Eshori L. The analgesic effects of tramadol, meperidine and lignocaine in ameliorating propofol injection pain - a comparative study. *J Med Society* 2009;23:129-31.
116. Singh D, Jindal P, Singh G. Comparative study of attenuation of the pain caused by propofol intravenous injection, by granisetron, magnesium sulfate and nitroglycerine. *Saudi Med J* 2011;5:50-4.
117. Sinha PK, Neema PK, Rathod RC. Effect of nitrous oxide in reducing pain of propofol injection in adult patients. *Anaesth Intensive Care* 2005;33:235-8.
118. Soltesz S, Silomon M, Graf G, Mencke T, Boulaadass S, Molter GP. Effect of a 0.5% dilution of propofol on pain on injection during induction of anesthesia in children. *Anesthesiology* 2007;106:80-4.
119. Sun NC, Wong AY, Irwin MG. A comparison of pain on intravenous injection between two preparations of propofol. *Anesth Analg* 2005;101:675-8.

120. Sundarathiti P, Boonthom N, Chalacheewa T, Jommaroeng P, Rungsithiwan W. A comparison of propofol-LCT with propofol-LCT/MCT on pain of injection. *J Med Assoc Thai* 2007;90:2683-8.
121. Suzuki H, Miyazaki H, Andoh T, Yamada Y. Propofol formulated with long-/medium-chain triglycerides reduces the pain of injection by target controlled infusion. *Acta Anaesthesiol Scand* 2006;50:568-71.
122. Tariq MA, Kamran M. Incidence of pain on propofol injection and efficacy of addition of lignocaine or selecting big vein or both combined in reducing it: A randomized control trial. *Journal of Postgraduate Medical Institute* 2006;20.
123. Tariq MA, Wadood R, Kamran M. The effects of intravenous lignocaine on pain during injection of medium and long-chain triglyceride propofol emulsions. *Journal of Postgraduate Medical Institute* 2010;24:222-25.
124. Telletxea S, et al. Sedation quality with two different formulations of propofol given by TCI in ambulatory surgery. *Ambulatory Surgery* 2008;14:75-79.
125. Turan A, Karamanlioglu B, Memis D, Pamukcu Z. [Prevention of propofol injection pain in patients using transdermal nitroglycerine]. *Turk Anesteziyoloji ve Reanimasyon* 2002;30:152-55. Turkish.
126. Ueki R, Tanimoto M, Tatara T, Tsujimoto S, Kaminoh Y, Tashiro C. Emulsion of flurbiprofen axetil reduces propofol injection pain due to a decrease in free propofol concentration. *J Anesth* 2007;21:325-9.
127. Uzun S, Karagoz AH, Kose EA, Canbay O, Ozgen S. Dexmedetomidine for prevention of propofol injection pain. *J Anaesth Clin Pharmacol* 2008;24:406-408.
128. Varghese E, Krishna HM, Nittala A. Does the newer preparation of propofol, an emulsion of medium/long chain triglycerides cause less injection pain in children when premixed with lignocaine? *Paediatr Anaesth* 2010;20:338-42.
129. Walker BJ, Neal JM, Mulroy MF, Humsi JA, Bittner RC, McDonald SB. Lidocaine pretreatment with tourniquet versus lidocaine-propofol admixture for attenuating propofol injection pain: a randomized controlled trial. *Reg Anesth Pain Med* 2011;36:41-5.
130. Wallentine CB, Shimode N, Egan TD, Pace NL. Propofol in a modified cyclodextrin formulation: first human study of dose-response with emphasis on injection pain. *Anesth Analg* 2011;113:738-41.
131. Yadav M, Durga P, Gopinath R. Role of hydrocortisone in prevention of pain on propofol injection. *J Anaesthesiol Clin Pharmacol* 2011;27:470-4.
132. Yeo J, Jeon Y, Kim Y, Ha J, Baek W. Comparison of effect of premixed lidocaine in propofol with or without ketorolac pretreatment with placebo on reducing pain on injection of propofol: A prospective, randomized, double-blind, placebo-controlled study in adult Korean surgical patients. *Curr Ther Res* 2009;70:351-358.
133. Yew WS, Chong SY, Tan KH, Goh MH. The effects of intravenous lidocaine on pain during injection of medium- and long-chain triglyceride propofol emulsions. *Anesth Analg* 2005;100:1693-5.
134. Zahedi H, Nikooseresht M, Seifrabie M. Prevention of propofol injection pain with small-dose ketamine. *Middle East J Anesthesiol* 2009;20:401-4.

135. Zahedi H, Maleki A, Rostami G. Ondansetron pretreatment reduces pain on injection of propofol. *Acta Med Iran* 2012;50:239-43.
136. Zhao GY, Guo Y, Bao SM, Meng LX, Zhang LH. Prevention of propofol-induced pain in children: pretreatment with small doses of ketamine. *J Clin Anesth* 2012;24:284-8.