REFERENCE LIST: PROCEDURAL SEDATION OCTOBER 2018



To achieve a calm, cooperative patient

Guidelines

Hinkelbein J, Lamperti M, Akeson J, et al. European Society of Anaesthesiology and European Board of Anaesthesiology guidelines for procedural sedation and analgesia in adults. Eur J Anaesthesiol. 2018:35:6–24.

Aldecoa C, Bettelli G, Bilotta F, et al. European Society of Anaesthesiology evidence-based and consensus-based guideline on postoperative delirium. Eur J Anaesthesiol. 2017;34:192–214.

Meta-analysis

Duan X, Coburn M, Rossaint R, et al. Efficacy of perioperative dexmedetomidine on postoperative delirium: systematic review and meta-analysis with trial sequential analysis of randomised controlled trials. Br J Anaesth. 2018;121:384–97.

Barends CR, Absalom A, van Minnen B, et al. Dexmedetomidine versus Midazolam in Procedural Sedation. A Systematic Review of Efficacy and Safety. PLoS One. 2017;12:e0169525.

Davy A, Fessler J, Fischler M, Le Guean M.

Dexmedetomidine and general anesthesia: a narrative literature review of its major indications for use in adults undergoing non-cardiac surgery. Minerva Anestesiol. 2017;83:1294–308.

Ter Bruggen F, Eralp I, Jansen CK, et al. Efficacy of dexmedetomidine as a sole sedative agent in small diagnostic and therapeutic procedures: A systematic review. Pain Pract. 2017;17:829–40.

Procedural sedation in surgery

CARDIOLOGY/VASCULAR SURGERY

Gallego-Ligorit L, Vives M, Vallés-Torres J, et al. Use of Dexmedetomidine in Cardiothoracic and Vascular Anesthesia. J Cardiothorac Vasc Anesth. 2018;32:1426–38.

Mayr NP, Wiesner G, van der Starre P, et al. Dexmedetomidine versus propofol-opioid for sedation in transcatheter aortic valve implantation patients: a retrospective analysis of periprocedural gas exchange and hemodynamic support. Can J Anaesth. 2018;65:647–57.

Slupe AM, Minnier J, Raitt MH, et al.

Dexmedetomidine sedation for paroxysmal supraventricular tachycardia ablation is not associated with alteration of arrhythmia inducibility. Anesth Analg. 2018 Apr 11. [Epub ahead of print].

Khalil M, Al-Agaty A, Asaad O, et al. A comparative study between propofol and dexmedetomidine as sedative agents during performing transcatheter aortic valve implantation. J Clin Anesth. 2016; 32:242–7.

Lee J, Huh U, Song S, et al. Regional anesthesia with dexmedetomidine infusion: a feasible method for the awake test during carotid endarterectomy. Ann Vasc Dis 2016;9:295–9.

Carter R, Richardson A, Santoro J, et al. Is dexmedetomidine more effective than remifentanil for neurologic outcomes in patients undergoing CEA surgery using regional anesthesia? J Peranesth Nurs. 2014;29:466–74.

Cho JS, Shim JK, Na S, et al. Improved sedation with dexmedetomidine-remifentanil compared with midazolam-remifentanil during catheter ablation of atrial fibrillation: a randomized, controlled trial. Europace. 2014;16:1000–6.

Bekker A, Gold M, Ahmed R, et al. Dexmedetomidine does not increase the incidence of intracarotid shunting in patients undergoing awake carotid endarterectomy. Anesth Analg 2006;103:955–8

NEUROLOGY

Implantation of deep brain stimulation, electrophysiological monitoring

Mathews L, Camalier CR, Kla KM, et al. The effects of dexmedetomidine on microelectrode recordings of the subthalamic nucleus during deep brain stimulation surgery: A retrospective analysis. Stereotact Funct Neurosurg. 2017;95:40–8.

Morace R, De Angelis M, Aglialoro E, et al. Sedation with α_2 agonist dexmedetomidine during unilateral subthalamic nucleus deep brain stimulation: A preliminary report. World Neurosurg. 2016; 89:320–8.

Krishna V, Elias G, Sammartino F, et al. The effect of dexmedetomidine on the firing properties of STN neurons in Parkinson's disease. Eur J Neurosci. 2015;42:2070–7.

Sassi M, Zekaj E, Grotta A, et al. Safety in the use of dexmedetomidine (precedex) for deep brain stimulation surgery: our experience in 23 randomized patients. Neuromodulation. 2013;16:401–6.

Awake craniotomy

Prontera A, Baroni S, Marudi A et al. Awake craniotomy anesthetic management using dexmedetomidine, propofol, and remifentanil. Drug Design, Development and Therapy 2017:11;593–8.

Luo X, Zheng X, Huang H. Protective effects of dexmedetomidine on brain function of glioma patients undergoing craniotomy resection and its underlying mechanism. Clin Neurol Neurosurg. 2016;146:105–8.

Souter MJ, Rozet I, Ojemann JG, et al.

Dexmedetomidine sedation during awake craniotomy for seizure resection: effects on electrocorticography. J Neurosurg Anesthesiol. 2007;19:38–44.

Other neuro-surgery

Prabhakar H, Mahajan C, Kapoor I. Anesthesia for minimally invasive neurosurgery. Curr Opin Anaesthesiol. 2017;30:546–50.

Kim H, Min KT, Lee JR, et al. Comparison of dexmedetomidine and remifentanil on airway reflex and hemodynamic changes during recovery after craniotomy. Yonsei Med J. 2016;57:980–6.

Tsaousi GG, Lamperti M, Bilotta F. Role of dexmedetomidine for sedation in neurocritical care patients: A qualitative systematic review and meta-analysis of current evidence. Clin Neuropharm 2016;39:144–51.

Rozet I, Metzner J, Brown M, et al. Dexmedetomidine does not affect evoked potentials during spine surgery. Anesth Analg 2015;121:492–501.

Ho KM. Is dexmedetomidine an ideal sedative agent for neurosurgical patients? Anaesth Intensive care 2012;40:927–8.

Mahmoud M, Sadhasivam S, Salisbury S, et al. Susceptibility of transcranial electric motor-evoked potentials to varying targeted blood levels of dexmedetomidine during spine surgery. Anesthesiology. 2010;112:1364–73.

Rozet I. Anesthesia for functional neurosurgery:the role of dexmedetomidine. Curr Opin Anaesthesiol 2008;21:537–43.

ORTHOPEDIC AND TRAUMA SURGERY

Kumar G, Dubey PK, Sanjeev OP. Effect of midazolam and dexmedetomidine sedation on the onset and duration of supraclavicular brachial plexus block: A randomised comparative study. Turk J Anaesthesiol Reanim. 2018;46:201–7.

Shin HJ, Do SH, Lee JS, et al. Comparison of intraoperative sedation with dexmedetomidine versus propofol on acute postoperative pain in total knee arthroplasty under spinal anesthesia: A randomized trial. Anesth Analg. 2018 Apr 5. [Epub ahead of print].

Chan IA, Maslany JG, Gorman KJ et al.

Dexmedetomidine during total knee arthroplasty performed under spinal anesthesia decreases opioid use: a randomized–controlled trial. Can J Anaesth. 2016;63:569–76.

Lee JM, Lee SK, Lee SJ et al. Comparison of remifentanil with dexmedetomidine for monitored anaesthesia care in elderly patients during vertebroplasty and kyphoplasty. J Int Med Res. 2016;44:307–16.

Peng K, Liu HY, Liu SI et al. Dexmedetomidinefentanyl compared with midazolam-fentanyl for conscious sedation in patients undergoing lumbar disc surgery. Clin Ther. 2016;38:192–201.

Yun SH, Park JC, Kim SR et al. Effects of dexmedetomidine on serum interleukin-6, hemodynamic stability, and postoperative pain relief in elderly patients under spinal anesthesia. Acta Med Okayama. 2016;70:37–43

PLASTIC SURGERY

Fan W, Xue H, Sun Y et al. Dexmedetomidine improves postoperative patient-controlled analgesia following radical mastectomy. Front Pharmacol. 2017;8:250.

Taghinia AH, Shapiro FE, Slavin SA.

Dexmedetomidine in aesthetic facial surgery: improving anesthetic safety and efficacy. Plast Reconstr Surg. 2008;121:269–76.

BARIATRIC SUGERY

Singh PM, Panwar R, Borle A et al. Perioperative analgesic profile of dexmedetomidine infusions in morbidly obese undergoing bariatric surgery: a meta-analysis and trial sequential analysis. Surg Obes Relat Dis. 2017;13:1434–46.

Aub-Halaweh S, Obeidat F, Absalom AR et al. Dexmedetomidine versus morphine infusion following laparoscopic bariatric surgery: effect on supplemental narcotic requirement during the first 24 h. Surg Endosc. 2016;30:3368–74.

AWAKE INTUBATION/BRONCHOSCOPY

Niyogi S, Basak S, Acharjee A, Chakraborty I. Efficacy of intravenous dexmedetomidine on patient's satisfaction, comfort and sedation during awake fibre-optic intubation in patients with cervical spondylotic myelopathy posted for elective cervical fixation. Indian J Anaesth.2017; 61:137–43.

Sharma J, Purohit S, Bhatia S, et al. Awake orotracheal fibre-optic intubation: Comparison of two different doses of dexmedetomidine on intubation conditions in patients undergoing cervical spine surgery. Indian J Anaesth. 2017;61:811–7.

Chopra P, Dixit MB, Dang A, Gupta V.

Dexmedetomidine provides optimum conditions during awake fiberoptic intubation in simulated cervical spine injury patients. J Anaesthesiol Clin Pharmacol. 2016;3:54–8.

Zhou LJ, Fang XZ, Gao J, et al. Safety and efficacy of dexmedetomidine as a sedative agent for performing awake intubation: a meta-analysis. Am J Ther. 2016;23:e1788–e1800.

Goneppanavar U, Magazine R, Janardhana BP, Achar SK. Intravenous dexmedetomidine provides superior patient comfort and tolerance compared to intravenous midazolam in patients undergoing flexible bronchoscopy. Pulm Med. 2015:727530.

Li CW, Li YD, Tian HT, et al. Dexmedetomidine-midazolam versus sufentanil-midazolam for awake fiberoptic nasotracheal intubation: A randomized double-blind study. Chin Med J (Engl). 2015;128:3143–8.

ABDOMINAL SURGERY

Li HJ, Li CJ, Wei XN, et al. Dexmedetomidine in combination with morphine improves postoperative analgesia and sleep quality in elderly patients after open abdominal surgery: A pilot randomized control trial. PLoS One. 2018;13:e0202008.

Jessen Lundorf L, Korvenius Nedergaard H, Moller AM. Perioperative dexmedetomidine for acute pain after abdominal surgery in adults. Cochrane Database Syst Rev. 2016;2:CD010358.

Wallace S, Mecklenburg B, Hanling S. Profound reduction in sedation and analgesic requirements using extended dexmedetomidine infusions in a patient with an open abdomen. Mil Med. 2009;174:1228–30.

ENDOSCOPY

Kinugasa H, Higashi R, Myiyahara K, et al. Dexmedetomidine for conscious sedation with colorectal endoscopic submucosal dissection: a prospective double-blind randomized controlled study. Clin Transl Gastroenterol. 2018;9:167.

Lu Z, **Li W**, **Chen H**, **Qian Y**. Efficacy of a dexmeedtomidine-remifentanil combination compared with a midazolam-remifentanil combination for conscious sedation during therapeutic ERCP: a prospective, randomized, single-blinded preliminary trial. Dig Dis and Sci. 2018;63:1633–40.

Viana A, Zhao C, RosaT, et al. The effect of sedative agents on drug-induced sleep endoscopy findings. Laryngoscope. 2018 Sep 7. [Epub ahead of print].

Chang ET, Certal V, Song SA, et al. Dexmedetomidine versus propofol during drug-induced sleep endoscopy and sedation: a systematic review. Sleep Breath. 2017;21:727–35.

Nishizawa T, Suzuki H, Hosoe N, et al.

Dexmedetomidine vs propofol for gastrointestinal endoscopy: A meta-analysis . United European Gastroenterol J. 2017;5:1037–45.

Kim NY, Yoo YC, Lee SK, et al. Comparison of the efficacy and safety of sedation between dexmedetomidine-remifentanil and propofolremifentanil during endoscopic submucosal dissection. World J Gastroenterol. 2015;21:3671–8.

Nishizawa T, Suzuki H, Sagara S, et al. Dexmedetomidine vs midazolam for gastrointestinal endoscopy: A meta-analysis . Dig Endosc. 2015; 27:8–15.

Samson S, George SK, Vinoth B, et al. Comparison of dexmedetomidine, midazolam, and propofol as an optimal sedative for upper gastrointestinal endoscopy: A randomized controlled trial. J Dig Endosc. 2014;5:51–7.

OPHTHALMOLOGY

Nagy AA, EI-Sayd SH, Ahmed AA, Rajab GZ. Optimal dose of dexmedetomidine retrobulbar anesthesia during phacoemulsification cataract surgery. Anesth Essays Res. 2017;11:1046–50.

Yoo JH, Kim SI, Cho A, et al. The effect of dexmedetomidine sedation on patient and surgeon satisfaction during retinal surgery under sub-tenon's anesthesia: a randomized controlled trial. Korean J Anesthesiol. 2015;68:442–8.

Erdurmus M, Aydin B, Usta B, et al. Patient comfort and surgeon satisfaction during cataract surgery using topical anesthesia with or without dexmedetomidine sedation. Eur J Ophthalmol. 2008;18:361–7.

DENTAL SURGERY

Singh V, Thepra M, Kirti S, et al. Dexmedetomidine as an additive to local anesthesia: a step to development in dentistry. J Oral Maxillofac Surg. 2018;76:2091.e1-2091.e7.

Togawa E, Hanamoto H, Maegawa H, et al.

Dexmedetomidine and midazolam sedation reduces unexpected patient movement during dental surgery compared with propofol and midazolam sedation. J Oral Maxillofac Surg. 2018 Jul 10. pii: S0278–2391(18)30761–4.

Kumar P, Thepra M, Bhagol A, et al. The newer aspect of dexmedetomidine use in dentistry: As an additive to local anesthesia, initial experience, and review of literature. Natl J Maxillofac Surg. 2016;7:76–9.

EAR-NOSE-THROAT SURGERY

Qin M, Chen K, Liu T, Shen X. Dexmedetomidine in combination with sufentanil for postoperative analgesia after partial laryngectomy. BMC Anesthesiol. 2017;17:66.

Liu T, Qin M, Li W, Shen X. Effects of a single dose dexmedetomidine on surgical field visibility during middle ear microsurgery: A randomized study. Otol Neurotol. 2016;37:680–4.

Kavalci G, Ethemoglu FB, Durukan P, et al. Comparison of the effects of dexmedetomidine and remiphentanyl on emergence agitation after sevoflurane anesthesia in adults undergoing septoplasty operation: a randomized double-blind trial. Eur Rev Med Pharmacol Sci. 2013;17:3019–23.

GYNECOLOGY/OBSTETRICS

Han C, Ge SJ, Huang SQ, et al. Influence of different menstrual phases on the Bispectral Index during dexmedetomidine sedation. Kaohsiung J Med Sci. 2016;32:586–92.

Wang X, Wang K, Wang B, et al. Effect of dexmedetomidine alone for intravenous patient-controlled analgesia after gynecological laparoscopic surgery: A consort-prospective, randomized, controlled trial. Medicine (Baltimore). 2016;95:e3639.

Jung HS, Joo JD, Jeon YS, et al. Comparison of an intraoperative infusion of dexmedetomidine or remifentanil on perioperative haemodynamics, hypnosis and sedation, and postoperative pain control. J Int Med Res. 2011;39:1890–9.

UROLOGY

Shamim R, Srivastava S, Rastogi A, et al. Effect of two different doses of dexmedetomidine on stress response in laparoscopic pyeloplasty: A randomized prospective controlled study. Anesth Essays Res. 2017;11:1030–4.

Kose EA, Honca M, Yilmaz E, et al. Comparison of effects of dexmedetomidine-ketamine and dexmedetomidine-midazolam combinations in transurethral procedures. Urology 2012;9:1214–9.

Procedural sedation in diagnostic procedures

(endoscopy related ones are in the procedural sedation/endoscopy section)

Samantaray A, Hanumantha Rao M, Sahu CR. Additional analgesia for central venous catheter insertion: A placebo controlled randomized trial of dexmedetomidine and fentanyl. Crit Care Res Pract. 2016;2016:9062658.

Sriganesh K, Reddy M, Jena S, et al. A comparative study of dexmedetomidine and propofol as sole sedative agents for patients with aneurysmal subarachnoid hemorrhage undergoing diagnostic cerebral angiography. J Anesth 2015;29:409–15.

Samantaray A. Effects of dexmedetomidine on procedural pain and discomfort associated with central venous catheter insertion. Indian J Anaesth 2014;58:281-6.

See also:

Ter Bruggen F et al, 2017, in the Meta-analysis section.

Pharmacodynamics and pharmacokinetics related publications are collected in the ICU list

