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14AP3-2

Epidural and intravenous ketamine for chronic postsurgical pain after thoracotomy

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Background and Goal of Study: The incidence of chronic postsurgical pain (CPP) after thoracotomy is ranged between 5-80%. Allodynia and hyperalgesia in the periincisional area and intercostal nerve injury suggest a neuropathic component. Ketamine, NMDAr antagonist, might reduce central sensitization and therefore periincisional hyperalgesia when administered during the perioperative period. The aim of this study was to test the preventive effects of perioperative epidural or iv ketamine on the development of CPP after thoracotomy.
Materials and Methods: Randomized double blind study on 56 patients older than 18 yr scheduled for posterolateral thoracotomy fulfilling inclusion and exclusion criteria. Patients were allocated to one out of 3 groups: iv ketamine (Kiv), epidural ketamine (Kep) or placebo (P). Anesthetic and surgical procedures were the same in all patients. Postoperative analgesia was ensured with an epidural PCA of ropivacaine 0.2% plus fentanyl 2mcg/ml for 48 hours. Intravenous or epidural ketamine (bolus of 0.5mg/kg before surgical incision and infusion of 0.25 mg/kg/h after surgery during 48 hours) was administered in groups Kiv and Kep respectively and saline serum in group P. Recorded variables were: VAS, Neurophatic Pain Symptoms Inventary (NPSI), Catastrophyzing Scale, Quantitative Sensory Testing (QST) measuring periincisional hyperalgesia area. Data were collected the day before surgery, 3 days, 7 days, 3 and 6 months after surgery. Adverse effects were also recorded. Results are expressed by means usual descriptive statistics and analyzed by means appropriate General Estimating Equations models in order to acute intra-individual correlation. SPSS v15 and Type I Error of 5% were used for statistical analyses.
Results: Demographic data were comparable among groups. VAS was significantly lower in group Kiv than in group P at day 3. At 3 and 6 months VAS was significantly lower in group Kpd compared to the other two groups. There were no significant differences in NPSI and Catastrophizing Scale scores among groups. Periincisional hyperalgesia area evaluated with QST was significantly smaller at day 3 and 7 in the group Kpd but no differences were found afterwards. There were no significant differences in adverse effects.
Conclusions: Epidural ketamine was associated to less CPP and smaller hyperalgesia area around surgical incision after thoracotomy than iv ketamine and placebo when added to epidural analgesia with ropivacaine and fentanyl.

14AP3-3

Perioperative intravenous lidocaine has preventive effects on postoperative pain during colorectal surgery

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Background and Goal of Study: Systemic lidocaine is belived to inhibit spontaneus impulse generation arising from injured nerve fibers and the dorsal root ganglion and suppres inflammatory reactions mediated by immune cells (polymorphonuclear cells). The aim is to use a comparative study show that continuous intravenous lidocaine intraoperatively reduces the systemic use of analgesics in the treatment postoperativniog pain than the standard technique of anesthesia and analgesia.
Materials and Methods: Thirty patients undergoing colorectal surgery in OET anesthesia, participated in this study. 15 patients received lidocaine (lidocaine group LG) with 1,5 mg/kg intravenous bolus in 10 min followed by a 1,5 mg/kg/h IV infusion, 30 min before surgycal incision and stopped 60 min after skin closure. Second, (control group GA), were administered postoperatively for analgesia in combination tramadol and ketorolak. Postoperative pain score were evaluated by using visual analog scale score of 0 - 10, every 2 h until the first posoperative day and then every 4 h next 72 h. If pain intensity ≥ 4, analgesia was started. Monitored the amount of administered anlgetic, first flatus, bowel movement and metabolic response(leukocytes, CRP and glucose) were measured 3 h after end of operation and next three days.
Results and Discussion: At the first measurement patients from LG, by the VAS scale incited a pain score between 3 and 6 and received their first ketorolac. From 15 patients in 6 was added, and tramadol (statistically significant difference, $p< 0,05$). In GA group, the intensity of pain by the VAS scale was between 5 and 9, and docked the tramadol. Application of tramadol was significantly reduced in the LG (40%). And in the later period during movement use of tramadol was significantly reduced in the LG (50 mg + - 25 vs. 200 mg + - 50); Student - t test, $p< 0.05$. LG had their first bowel movement 79 h (66h-84h) after surgery and the GA had their first bowel movement 85 h (68h-96h), the difference was not statistically significant. The value of Le, CRP and blood glucose levels were some lower in the LG, but the difference was not statistically significant.
Conclusion(s): Perioperative continuous intravenous lidocaine reduces the systemic use of analgetics in the treatment postoperative pain during colorectal surgery, faster return of bowel function and prevent postoperative ileus. For this reason, this old method deserves a new approach.

14AP3-4

Effect of perioperative systemic alpha2-agonists on postoperative morphine consumption and pain intensity - systematic review of randomized controlled trials

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Background and Goal of Study: Perioperative systemic alpha2-agonists are expected to reduce postoperative opioid requirements and pain intensity.
Materials and Methods: We searched Medline, Embase, Central, and bibliographies (to 4.2010), without language restriction, for randomized trials testing any systemic alpha2-agonist (versus placebo or no treatment), administrated before, during or after surgery, in adults undergoing non-cardiac surgery under general anesthesia, and that reported on postoperative cumulative opioid consumption or pain intensity. Opioid doses were converted to morphine equivalents. We estimated weighted mean differences (WMD) and numbers-needed-to-treat/harm (NNT/H) with 95% confidence intervals (CI) when data from at least five studies or 100 patients could be combined.
Results and Discussion: Thirty studies (1,792 patients, 933 received clonidine or dexmedetomidine) were included. Alpha2-agonists regimens varied widely across trials. Their opioid-sparing effect consistently increased over time: WMD at 2 h -0.4 mg, at 6 h -4.7 mg, at 12 h and 24h -8.5 mg, and at 36h -17.6 mg. Alpha2-agonists significantly decreased pain intensity at 30 min (-1 cm on the 10 cm VAS) and at 2 h (-0.7 cm), but not at 24 h. They also significantly decreased nausea at 8 and 48 h (NNT 8.4 and 6.2, respectively), and vomiting at 48 h (NNT 18), but increased the risk of postoperative bradycardia (NNH 12), and of intraoperative and postoperative arterial hypotension (NNH 11 and 16, respectively). Recovery times were not prolonged.
Conclusion(s): Peri-operative systemic alpha2-agonists have only a weak postoperative opioid-sparing effect and a short lasting effect on pain intensity. Their impact on nausea and vomiting is clinically not relevant while hemodynamic adverse effects may limit their routine usage.

14AP3-5

Comparison between intra operative hemodynamic parameters and post operative analgesia of gabapentin and tizanidine in patients by tibial fractures

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Background and Goal of Study: Gabapentin and Tizanidine analgesic effects have been studied but comparison between analgesic effects of these two drugs has not been studied yet .
Materials and Methods: We studied on 60 patients by tibial Fractures between 15-80 yrs. They were divided into two goups: 30 patients were taken 300 mg Gabapentin orally 1 hour before operation (Group G), and 30 patients were taken 8 mg tizanidine by oral 1 hour before operation (Group T). patients' pain was assessed 1 hour before and during 12 hours post operation by visual Analogue Scale (VAS). All patients had General anesthesia . Vital Signs and fentanyl consumption during Surgery, the first time of need to Morphine and total dose of Morphine after operation were assessed.
Results and Discussion: Systolic and diastolic blood pressure and heart rates during operation between two groups were not significant. Intra op fentanyl dose in group G was significantly less than group T($P = 0.001$).
The first time of need to Morphine (IV) in group G was Significantly longer than group T ($P = 0.001$) and total dose of Morphine Consumption during 12 hours