**eTable 1. Characteristics of included trials**

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|  |  |  |  | |  | |  |  | |  |  |  |  |  |  |
| **Studies** | **Number of Patients Randomized** | **Population** |  | |  | |  | **Intervention** | |  |  |  | **Co-Analgesia** | **Outcomes Reported (**main underline) | **Follow-Up Period** |
| Groups (Number of patients analyzed) | Surgery | | Anesthesia | |  | Daily pre-operative dosage (mg) | Timing | Daily post-operative dosage (mg) | Post-operative duration (days) |  | Regional analgesia (yes or no) |
| Yoon *et al.*  (2001)1 | 31 | Gabapentin (n = 16) | Total hysterectomy | | General anesthesia | |  | 400 | 0.5h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization * Satisfaction * Side effects | 24h |
|  | Placebo (n = 15) |  | |  | 0 | Same | - | - |  |  |  |
| Dirks *et al.*  (2002)2 | 70 | Gabapentin (n = 31) | | Unilateral radical mastectomy with axillary dissection | | General anesthesia |  | 1200 | 1h before surgery | - | - |  | No | * Morphine utilization * Postoperative pain * Side effects | 4h |
|  | Placebo (n = 34) | |  |  | 0 | 1h before surgery | - | - |  |  |  |
| Fassoulaki *et al.*  (2002)3 | 75 | Gabapentin (n = 22) | | Modified radical mastectomy or lumpectomy with axillary lymph node dissection | | General anesthesia |  | 400 | evening before surgery / Not mentioned | 1200 | 10 |  | No | * Analgesic utilization * Postoperative pain * Chronic pain | 10d |
|  | Mexiletine (n = 21) | |  |  | 200 | Same | 600 | 10 |  |  |  |
|  | Placebo (n = 24) | |  |  | 0 | Same | 0 | 10 |  |  |
| Dierking *et al.*  (2004)4 | 80 | Gabapentin (n = 39) | | Total or subtotal abdominal hysterectomy with or without salpingo-oophorectomy | | General anesthesia |  | 1200 | 1h before surgery / 8h after first dose | 1800 | 1 |  | No | * Total morphine utilization * Postoperative pain at rest and during mobilization * Postoperative nausea or vomiting * Side effects | 24h |
|  | Placebo (n = 32) | |  |  | 0 | Same | 0 | 1 |  |  |  |
| Kim *et al.*  (2004)5 | 41 | Gabapentin (n = 21) | | Mastectomy | | General anesthesia |  | 900 | before surgery | - | - |  | No | * Postoperative pain * Fentanyl utilization * Sedation * Adverse effects | 24h |
| Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |
| Pandey *et al.*  (2004)6 | 459 | Gabapentin (n = 153) | | Laparoscopic cholecystectomy | | General anesthesia |  | 300 | 2h before surgery | - | - |  | No | * Postoperative pain VAS score * Fentanyl utilization * Sedation score * Side effects | 24h |
|  | Tramadol (n = 153) | |  |  | 100 | Same | - | - |  |  |  |
|  | Placebo (n = 153) | |  |  | 0 | Same | - | - |  |  |  |
| Pandey *et al.*  (2004)7 | 56 | Gabapentin (n = 28) | | Single-level lumbar disc surgery | | General anesthesia |  | 300 | 2h before surgery | - | - |  | No | * Postoperative pain * Fentanyl requirement * Side effects | 24h |
|  | Placebo (n = 28) | |  |  | 0 | Same | - | - |  |  |  |
| Rorarius *et al.*  (2004)8 | 75 | Gabapentin (n = 38) | | Vaginal hysterectomy | | General anesthesia |  | 1200 | 2-2.5h before surgery | - | - |  | No | * Postoperative pain at rest during coughing and during leg elevation * Fentanyl utilization * Side effects | 20h |
| Oxazepam (n = 37) | |  |  | 15 | Same | - | - |  |  |  |
| Turan *et al.*  (2004)9 | 50 | Gabapentin (n = 25) | | Rhinoplasty or endoscopic sinus surgery septal and nasal sinus surgery | | Monitored anesthesia care |  | 1200 | 1h before surgery | - | - |  | No | * Postoperative pain and intraoperative pain * Analgesic utilization * Side effects | 24h |
|  | Placebo (n = 25) | |  |  | 0 | Same | - | - |  |  |  |
| Turan *et al.*  (2004)10 | 50 | Gabapentin (n = 25) | | Lumbar discectomy or spinal fusion | | General anesthesia |  | 1200 | 1h before surgery | - | - |  | No | * Postoperative pain scores * HR * SpO2 * Mean blood pressure * RR * Morphine utilization * Sedation * Side effects | 24h |
| Placebo (n = 25) | |  |  | 0 | Same | - | - |  |  |  |
| Turan *et al.*  (2004)11 | 50 | Gabapentin (n = 25) | | Total abdominal hysterectomy with salpingo-oophorectomy | | General anesthesia |  | 1200 | 1h before surgery | - | - |  | No | * Postoperative pain VAS scores * HR * Spo2 * MAP * RR * Sedation * Tramadol utilization in the study * Side effects | 24h |
|  | Placebo (n = 25) | |  |  | 0 | Same | - | - |  |  |  |
| Ménigaux *et al.*  (2005)12 | 40 | Gabapentin (n = 20) | | Arthroscopic anterior cruciate ligament repair using hamstring autograft | | General anesthesia |  | 1200 | 1-2h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization * Degrees of active and passive knee flexion and extension * Preoperative anxiety * Sedation score * Side effects | 48h |
| Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
| Pandey *et al.*  (2005)13 | 60 | Gabapentin postoperation (n = 20) | | Open donor nephrectomy | | General anesthesia |  | 0 | 2h before surgery */* after surgical incision | 600 | 0 |  | No | * Postoperative pain * Fentanyl requirement * Side effects | 24h |
|  | Gabapentin preoperation (N = 20) | |  |  | 600 | Same | 0 | 0 |  |  |  |
|  | Placebo (n = 20) | |  |  | 0 | Same | 0 | 0 |  |  |  |
| Pandey *et al.*  (2005)14 | 100 | Gabapentin 1200 (n = 20) | | Single-level lumbar disk surgery | | General anesthesia |  | 1200 | 2h before surgery | - | - |  | No | * Postoperative pain * Fentanyl requirement * Side effects | 24h |
|  | Gabapentin 900 (n = 20) | |  |  | 900 | Same | - | - |  |  |  |
|  | Gabapentin 600 (n = 20) | |  |  | 600 | Same | - | - |  |  |  |
|  | Gabapentin 300 (n = 20) | |  |  | 300 | Same | - | - |  |  |  |
|  | Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
| Radhakrishnan *et al.*  (2005)15 | 60 | Gabapentin (n = 30) | | Lumbar laminectomy and discectomy | | General anesthesia |  | 800 | night before + 2h before surgery | - | - |  | No | * Fentanyl and morphine utilization * Postoperative pain * Side effects | 8h |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Tuncer *et al.*  (2005)16 | 45 | Gabapentin 1200 (n = 15) | | Major orthopedic surgery | | General anesthesia |  | 1200 | 1h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization * Side effects | 4h |
|  | Gabapentin 800 (n = 15) | |  |  | 800 | Same | - | - |  |  |  |
|  | Placebo (n = 15) | |  |  | 0 | Same | - | - |  |  |  |
| Adam *et al.*  (2006)17 | 60 | Gabapentin (n = 27) | | Arthroscopic shoulder surgery | | General anesthesia |  | 800 | 2h before surgery | - | - |  | Yes | * Number of Di-Antalvic tablets (48h) * Postoperative pain * Postoperative nausea or vomiting * Side effects | 48h |
|  | Placebo (n = 26) | |  |  | 0 | Same | - | - |  |  |  |
| Al-Mujadi *et al.*  (2006)18 | 78 | Gabapentin (n = 37) | | Thyroid surgery | | General anesthesia |  | 1200 | 2h before surgery | - | - |  | No | * Postoperative pain * morphine utilization * Adverse effects | 24h |
|  | Placebo (n = 35) | |  |  | 0 | Same | - | - |  |  |  |
| Bartholdy *et al.*  (2006)19 | 80 | Gabapentin (n = 38) | | Laparoscopic sterilization | | General anesthesia |  | 1200 | 0.5 before surgery | - | - |  | No | * Number of patients requesting morphine * morphine utilization * Postoperative pain * Side effects | 4h |
|  | Placebo (n = 38) | |  |  | 0 | Same | - | - |  |  |  |
| Fassoulaki *et al.*  (2006)20 | 59 | Gabapentin (n = 25) | | Abdominal hysterectomy | | General anesthesia |  | 1600 | 12PM day before surgery / Not mentioned | 1600 | 5 |  | No | * Postoperative pain * opioid utilization | 1mo |
|  | Placebo (n = 28) | |  |  | 0 | Same | 0 | 5 |  |  |  |
| Mikkelsen *et al.*  (2006)21 | 55 | Gabapentin (n = 22) | | Tonsillectomy | | General anesthesia |  | 1200 | 1h before surgery / Not mentioned after surgery | Operation day: 1200 and next 5 days: 1800 | 6 |  | No | * Mean Postoperative pain at rest. * Postoperative pain during swallowing * Morphine requirement * Ketobemidone requirement * Sedation * Dizziness * Postoperative nausea or vomiting * Gait disturbance | 5d |
|  | Placebo (n = 27) | |  |  | 0 | Same | 0 | 6 |  |  |  |
| Nikolajsen *et al.*  (2006)22 | 46 | Gabapentin (n = 21) | | Lower limb amputation because of peripheral vascular disease | | epidural +/- Regional anesthesia or General anesthesia |  |  | 1d after surgery | 300 on day 1. 900 on days 2-4. 1200 on days 5 and 6 .1500 on days 7 and 8. 1800 on days 9 and 10. 2100 on days 11 and 12 and 2400 on days 13-30 | 30 |  | Yes | * Rates of phantom pain * Intensity of stump and phantom pain at 30 days and at 6 months * Frequency. duration and intensity of phantom pain attacks * Description of pain utilization of opioids * Side effects | 6mo |
|  | Placebo (n = 20) | |  |  |  | Same | 0 | 30 |  |  |  |
| Pandey *et al.*  (2006)23 | 260 | Gabapentin (n = 125) | | Laparoscopic cholecystectomy | | General anesthesia |  | 600 | 2h before surgery | - | - |  | No | * Postoperative nausea or vomiting * Fentanyl utilization * Drowsiness * Itching * Light headedness * Lack of concentration * Headache | 24h |
|  | Placebo (n = 125) | |  |  | 0 | Same | - | - |  |  |  |
| Turan *et al.*  (2006)24 | 40 | Gabapentin (n = 20) | | Lower limb surgery | | Regional or general anesthesia |  | 1200 | 1h before surgery | - | - |  | Yes | * Postoperative pain * sedation * patient-controlled epidural analgesia usage * Quality of recovery assessment * Times of gastrointestinal function recovery * Patient satisfaction scoring for pain management | 72h |
|  | Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
| Montazeri *et al.*  (2007)25 | 70 | Gabapentin (n = 35) | | Knee arthroscopy | | General anesthesia |  | 300 | 2h before surgery | - | - |  | No | * Postoperative pain * Total rescue analgesic * Somnolence * Nystagmus * Tremor * Diplopia * Nausea | 24h |
|  | Placebo (n = 35) | |  |  | 0 | Same | - | - |  |  |  |
| Paech *et al.*  (2007)26 | 90 | Pregabalin (n = 41) | | Gynecologic operations involving the cervix and uterus | | General anesthesia |  | 100 | 1h before surgery | - | - |  | No | * Postoperative pain * Fentanyl requirement * Quality of recovery * Analgesic requirement * Sedation score * Postoperative nausea or vomiting * Satisfaction score * Headache * Light-headedness * Visual disturbances * Difficulty walking | 24h |
|  | Placebo (n = 45) | |  |  | 0 | Same | - | - |  |  |  |
| Prabhakar *et al.*  (2007)27 | 20 | Gabapentin (n = 10) | | Brachial plexus exploration | | General anesthesia |  | 800 | 2h before surgery | - | - |  | No | * Postoperative pain VAS score at rest and dynamic * Hemodynamics variables * Intraoperative fentanyl and propofol utilization * Total doses of rescue analgesic * Postoperative nausea or vomiting * Excessive sedation | 24h |
|  | Placebo (n = 10) | |  |  | 0 | Same | - | - |  |  |  |
| Said-Ahmed  (2007)28 | 80 | Gabapentin 1200 (n = 20) | | Myomectomy | | General anesthesia |  | 1200 | 2h before surgery | - | - |  | No | * Postoperative pain VAS * Fentanyl utilization * Side effects | 24h |
|  | Gabapentin 600 (n = 20) | |  |  | 600 | Same | - | - |  |  |  |
|  | Gabapentin 300 (n = 20) | |  |  | 300 | Same | - | - |  |  |  |
|  | Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
| Takmaz *et al.*  (2007)29 | 45 | Gabapentin 900 (n = 15) | | Open cholecystectomy | | General anesthesia |  | 900 | 1h before surgery | - | - |  | No | * Postoperative pain * Analgesic utilization * Adverse effects | 24h |
|  | Gabapentin 1200 (n = 15) | |  |  | 1200 | Same | - | - |  |  |  |
|  | Placebo (n = 15) | |  |  | 0 | Same | - | - |  |  |  |
| Tsitsopoulos *et al.*  (2007)30 | 40 | Gabapentin (n = 20) | | Lumbar fusion surgery | | General anesthesia |  | 1200 | 1h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization | 24h |
|  | Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
| Turan *et al.*  (2007)31 | 40 | Gabapentin (n = 20) | | Hand surgery | | Regional anesthesia |  | 1200 | 1h before surgery | - | - |  | No | * Sensory and motor block onset * Recovery times * Tourniquet pain * Quality of anesthesia * Postoperative pain VAS score * Side effects at discharge | 24h |
|  | Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
| Agarwal *et al.*  (2008)32 | 60 | Pregabalin (n = 27) | | Laparoscopic cholecystectomy | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Postoperative pain * Fentanyl requirement * Incidence and severity of side effects | 24h |
|  | Placebo (n = 29) | |  |  | 0 | Same | - | - |  |  |  |
| Brogly *et al.*  (2008)33 | 50 | Gabapentin (n = 22) | | Thyroidectomy | | General anesthesia |  | 1200 | 2h before surgery | - | - |  | Yes | * Analgesic utilization * Chronic pain | 6mo |
|  | Placebo (n = 21) | |  |  | 0 | Same | - | - |  |  |  |
| Freedman *et al.*  (2008)34 | 80 | Pregabalin (n = 40) | | Augmentation mammaplasty | | General anesthesia |  | 75 | 2h before surgery / 12h after first dose | 150 | 7 |  | No | * Postoperative pain * Hydrocodone utilization * Nausea * Quality of pain | 7d |
|  | Placebo (n = 40) | |  |  | 0 | Same | 0 | 7 |  |  |  |
| Huot *et al.*  (2008)35 | 60 | Gabapentin (n = 23) | | Thoracotomy | | General anesthesia |  | 1200 | 2h before surgery | - | - |  | Yes | * Postoperative pain at the surgical site (at rest and while coughing) * Shoulder Postoperative pain (at rest and during movement) * Side effects | 24h |
|  | Placebo (n = 28) | |  |  | 0 | Same | - | - |  |  |  |
| Jokela *et al.*  (2008)36 | 91 | Pregabalin 600 (n = 29) | | Laparoscopic hysterectomy | | General anesthesia |  | 300 | 1h before surgery / 12h after 1st dose | 300 | 1 |  | No | * Postoperative pain VAS scores. * VAS scores for side effects including Postoperative nausea or vomiting * Drowsiness * Dizziness * Lack of concentration * Blurred vision * Itching * Swelling of limbs * Patient satisfaction | 5d |
|  | Pregabalin 300 (n = 27) | |  |  | 150 | Same | 150 | 1 |  |  |  |
|  | Diazepam (n = 29) | |  |  | 10 | Same | 10 | 1 |  |  |  |
| Jokela *et al.*  (2008)37 | 90 | Pregabalin 150 (n = 26) | | Day-case gynaecological laparoscopic surgery | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Postoperative pain * Analgesic requirement * Side effects | 24h |
|  | Pregabalin 75 (n = 30) | |  |  | 75 | Same | - | - |  |  |  |
|  | Diazepam (n = 28) | |  |  | 5 | Same | - | - |  |  |  |
| Metry *et al.*  (2008)38 | 111 | Gabapentin postoperation (n = 33) | | Unilateral modified radical mastectomy | | General anesthesia |  | Placebo | 2h before surgery / 2h after surgery | 1200 | 1 |  | No | * Postoperative pain * Morphine utilization * Postoperative nausea or vomiting * Side effects | 24h |
|  | Gabapentin preoperation (n = 34) | |  |  | 1200 | Same | 0 | 1 |  |  |  |
|  | Placebo (n = 34) | |  |  | Placebo | Same | 0 | 1 |  |  |  |
| Mohammadi *et al.*  (2008)39 | 120 | Gabapentin (n = 40) | | Abdominal surgeries (general and gynecological) | | General anesthesia |  | 300 | 1h before surgery | - | - |  | No | * Pain score >3 (VAS) 6h postoperative * Mean morphine utilization * IV rescue medication * Postoperative nausea or vomiting * Adverse effects | 6h |
|  | Clonidine (n = 40) | |  |  | 0.2 | Same | - | - |  |  |  |
|  | Placebo (n = 40) | |  |  | 0 | Same | - | - |  |  |  |
| Mohammadi *et al.*  (2008)40 | 70 | Gabapentin (n = 35) | | Laparoscopic surgery for assisted reproductive technology | | General anesthesia |  | 300 | 1h before surgery | - | - |  | No | * Postoperative pain * Postoperative nausea or vomiting | 2h |
|  | Placebo (n = 35) | |  |  | 0 | Same | - | - |  |  |  |
| Acín *et al.*  (2009)41 | 140 | Pregabalin (n = 70) | | Open inguinal. crural or umbilical hernia repair with mesh | | General anesthesia |  | 75 | 3 nights before surgery / night after surgery | 75 | 12 |  | No | * Chronic pain * Adverse effects | 12mo |
|  | Placebo (n = 70) | |  |  | 0 | Same | 0 | 12 |  |  |  |
| Bashir *et al.*  (2009)42 | 100 | Gabapentin (n = 50) | | Laparoscopic Cholecystectomy | | General anesthesia |  | 600 | 2h before surgery | - | - |  | No | * Postoperative nausea or vomiting | 24h |
|  | Placebo (n = 50) | |  |  | 0 | Same | - | - |  |  |  |
| Chang *et al.*  (2009)43 | 80 | Pregabalin (n = 39) | | Laparoscopic Cholecystectomy | | General anesthesia |  | 150 | 1h before surgery / 12h after 1st dose | 150 | 0.5 |  | No | * Postlaparoscopic shoulder pain * Postoperative pain * Time to first rescue analgesia * Time in PACU * Rescue ketoralac requirement | 48h |
|  | Placebo (n = 38) | |  |  | 0 | Same | 0 | 0.5 |  |  |  |
| Clarke *et al.*  (2009)44 | 126 | Gabapentin postoperation (n = 38) | | Total hip arthroplasty | | Regional anesthesia |  | 0 | 2h before surgery / direct after surgery | 600 | 0 |  | No | * Morphine utilization * Postoperative pain * Side effects * Chronic pain | 6mo |
|  | Gabapentin preoperation (n = 38) | |  |  | 600 | Same | 0 | 0 |  |  |  |
|  | Placebo (n = 38) | |  |  | 0 | Same | 0 | 0 |  |  |  |
| Clarke *et al.*  (2009)45 | 40 | Gabapentin 600/300 (n = 7) | | Total knee arthroplasty | | Regional anesthesia |  | 600 | 2h before surgery / 8h after surgery | 900 | 4 |  | Yes | * Morphine utilization * Postoperative pain * Side effects | 48h |
|  | Gabapentin 600/200 (n = 7) | |  |  | 600 | Same | 600 | 4 |  |  |  |
|  | Gabapentin 600/100 (n = 8) | |  |  | 600 | Same | 300 | 4 |  |  |  |
|  | Gabapentin 600/0 (n = 7) | |  |  | 600 | Same | 0 | 4 |  |  |  |
|  | Placebo (n = 7) | |  |  | 0 | Same | 0 | 4 |  |  |  |
| Grover *et al.*  (2009)46 | 50 | Gabapentin (n = 25) | | Total mastectomy with axillary dissection | | General anesthesia |  | 600 | 1h before surgery | - | - |  | No | * Morphine utilization * Postoperative pain * Adverse effects | 12h |
|  | Placebo (n = 21) | |  |  | 0 | Same | - | - |  |  |  |
| Imani *et al.*  (2009)47 | 80 | Gabapentin (n = 40) | | Thoracotomy | | General anesthesia |  | 600 | 90 mins before surgery | - | - |  | No | * Postoperative pain * Morphine utilization * Side effects | 24h |
|  | Placebo (n = 40) | |  |  | 0 | 90 mins before surgery | - | - |  |  |  |
| Ittichaikulthol *et al.*  (2009)48 | 80 | Pregabalin (n = 38) | | Abdominal hysterectomy with/without salpingo-oophorectomy | | General anesthesia |  | 300 | 1h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization * Satisfaction * Adverse effects | 24h |
|  | Lorazepam (n = 40) | |  |  | 0.5 | Same | - | - |  |  |  |
| Jeon *et al.*  (2009)49 | 58 | Gabapentin (n = 32) | | Tonsillectomy | | General anesthesia |  | 600 | night before+1h before surgery | - | - |  | No | * Postoperative pain VAS at rest and during swallowing * Fentanyl utilization * Satisfaction scores * Side effects | 9d |
|  | Placebo (n = 26) | |  |  | 0 | Same | - | - |  |  |  |
| Kang *et al.*  (2009)50 | 100 | Gabapentin 300 (n = 25) | | Gynecologic surgery | | General anesthesia |  | 300 | 2h before surgery | - | - |  | No | * Postoperative pain * Fentanyl utilization * Sedation | 48h |
|  | Gabapentin 600 (n = 25) | |  |  | 600 | Same | - | - |  |  |  |
|  | Gabapentin 1200 (n = 25) | |  |  | 1200 | Same | - | - |  |  |  |
|  | Placebo (n = 25) | |  |  | 0 | Same | - | - |  |  |  |
| Nutt *et al.*  (2009)51 | 89 | Pregabalin (n = 27) | | Dental procedure | | Monitored anesthesia care |  | 150 | 4h before surgery | - | - |  | Not mentioned | * VAS for anxiety * VAS for sedation * Time-to-Onset of Action Scale * Dental anxiety scale | 4h |
|  | Alprazolam (n = 31) | |  |  | 0.5 | Same | - | - |  |  |  |
|  | Placebo (n = 31) | |  |  | 0 | Same | - | - |  |  |  |
| Sava *et al.*  (2009)52 | 50 | Gabapentin (n = 25) | | Rectocolic surgery | | General anesthesia |  | 800 | before surgery | - | - |  | No | * Anxiety * Postoperative pain * Morphine utilization * Adverse effects | 48h |
|  | Placebo (n = 25) | |  |  | 0 | before surgery | - | - |  |  |  |
| Sekhavat *et al.*  (2009)53 | 100 | Gabapentin (n = 49) | | Abdominal hysterectomy | | General anesthesia |  | 600 | 1h before surgery / 8h after first dose | 300 | 1 |  | No | * Postoperative pain * Morphine utilization * Patient satisfaction * Adverse effects | 48h |
|  | Placebo (n = 49) | |  |  | 0 | Same | 0 | 1 |  |  |  |
| Şen *et al.*  (2009)54 | 60 | Gabapentin (n = 20) | | Abdominal hysterectomy with salpingo-oophorectomy | | General anesthesia |  | 1200 | 1h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization * Quality of recovery * Bowel function * Resumption of normal activities * Patient satisfaction * Adverse effects | 6mo |
|  | Ketamine (n = 20) | |  |  | 0.3 mg /kg + 0.05mg/kg/h | Same | - | - |  |  |  |
|  | Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
| Şen *et al.*  (2009)55 | 60 | Gabapentin (n = 30) | | Unilateral elective indirect inguinal herniorrhaphy | | Regional anesthesia |  | 1200 | 1h before surgery | - | - |  | No | * Postoperative pain VAS during siting and lying * Any side effects | 6mo |
|  | Placebo (n = 29) | |  |  | 0 | Same | - | - |  |  |  |
| White *et al.*  (2009)56 | 108 | Pregabalin 300 (n = 27) | | Ambulatory and short-stay (24 h) surgical procedures (e.g.. ear–nose–throat. laparoscopic. urologic. and plastic surgery) | | General anesthesia |  | 300 | 1-1.5h before surgery | - | - |  | No | * Anxiety * Sedation and pain (preoperative and postoperative) * Need for postoperative opioid analgesic medication * Postoperative nausea or vomiting * Requirement for rescue antiemetics * Times to discharge from the PACU and hospital * Patients’ quality of recovery scores | 7d |
|  | Pregabalin 150 (n = 27) | |  |  | 150 | Same | - | - |  |  |  |
|  | Pregabalin 75 (n = 27) | |  |  | 75 | Same | - | - |  |  |  |
|  | Placebo (n = 27) | |  |  | 0 | Same | - | - |  |  |  |
| Amr *et al.*  (2010)57 | 150 | Gabapentin (n = 50) | | Partial or radical mastectomy with axillary dissection | | General anesthesia |  | 300 | night before surgery / night after surgery | 300 | 10 |  | No | * Postoperative pain * Analgesic requirement * Chronic pain * Side effects | 6mo |
|  | Venlafaxine (n = 50) | |  |  | 37.5 | Same | 37.5 | 10 |  |  |  |
|  | Placebo (n = 50) | |  |  | 0 | Same | 0 | 10 |  |  |  |
| Bang *et al.*  (2010)58 | 52 | Gabapentin (n = 23) | | Arthroscopic rotator cuff repair | | General anesthesia |  | 300 | 2h before surgery | - | - |  | No | * Postoperative pain * Fentanyl utilization * Postoperative nausea or vomiting * Side effects | 24h |
|  | Placebo (n = 23) | |  |  | 0 | Same | - | - |  |  |  |
| Belhaj *et al.*  (2010)59 | 26 | Pregabalin (n = 13) | | Spinal fusion | | General anesthesia |  | 150 | 1h before surgery + 12h after surgery | 150 | 1 |  | No | * Postoperative pain * Morphine consumption * Adverse effects | 48h |
|  | Placebo (n = 13) | |  |  | 0 | Same | 0 | 1 |  |  |  |
| Burke *et al.*  (2010)60 | 40 | Pregabalin (n = 18) | | Lumbar discectomy | | General anesthesia |  | 300 | 1.5h before surgery / 12h after surgery | 300 | 1 |  | No | * Change in pain intensity at 3 months * Postoperative pain * Functional score | 3mo |
|  | Placebo (n = 20) | |  |  | 0 | Same | 0 | 1 |  |  |  |
| Buvanendran *et al.*  (2010)61 | 240 | Pregabalin (n = 113) | | Total knee arthroplasty | | Regional anesthesia |  | 300 | 1-2h before surgery / Not mentioned | Days 1-10: 300. days 11-12: 150. days 13-14: 100 | 14 |  | Yes | * Chronic pain * Knee range of motion * opioid utilization * Postoperative pain * Sleep disturbance * Time to discharge and adverse effects | 6mo |
|  | Placebo (n = 115) | |  |  | 0 | Same | 0 | 14 |  |  |  |
| Chowdhury *et al.*  (2010)62 | 200 | Gabapentin (n = 100) | | Gynecological surgeries | | General anesthesia |  | 300 | 2h before surgery | - | - |  | No | * Postoperative pain VAS scores * Ramsay sedation scores * Rescue analgesia received * Postoperative nausea or vomiting * Side effects | 6h |
|  | Placebo (n = 100) | |  |  | 0 | Same | - | - |  |  |  |
| Clendenen *et al.*  (2010)63 | 47 | Pregabalin (n = 23) | | Arthroscopic rotator cuff repair | | Regional ou general anesthesia |  | 150 | 1h before surgery / 12h after surgery | 300 | 2 |  | Yes | * Oxycodone utilization * Postoperative pain * Side effects * Duration of hospitalization | 48h |
|  | Placebo (n = 24) | |  |  | 0 | Same | 0 | 2 |  |  |  |
| Doha *et al.*  (2010)64 | 60 | Gabapentin (n = 30) | | Radical mastectomy surgery | | General anesthesia |  | 1200 | 2h before surgery | - | - |  | No | * Postoperative pain * Analgesic utilization * End-tibial isoflurane concentrations * Side effects | 24h |
|  | Placebo (n = 29) | |  |  | 0 | Same | - | - |  |  |  |
| Gianesello *et al.*  (2010)65 | 30 | Pregabalin (n = 15) | | Spine surgery for decompression and stabilization | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization * Adverse effects | 24h |
|  | Placebo (n = 15) | |  |  | 0 | Same | - | - |  |  |  |
| Kazak *et al.*  (2010)66 | 60 | Gabapentin (n = 30) | | Nasal septal and nasal sinus surgery | | Monitored anesthesia care |  | 600 | 1h before surgery | - | - |  | No | * Remifentanyl utilization * Intraoperative pain VAS score * Level of anxiety * Postoperative pain score * Lornoxicam utilization * Level of sedation * Side effects | 24h |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Khademi *et al.*  (2010)67 | 90 | Gabapentin (n = 44) | | Open cholecystectomy | | General anesthesia |  | 600 | 2h before surgery | - | - |  | No | * Postoperative nausea or vomiting * Postoperative pain * Pethidine utilization | 24h |
|  | Placebo (n = 43) | |  |  | 0 | Same | - | - |  |  |  |
| Kim *et al.*  (2010)68 | 99 | Pregabalin (n = 47) | | Robot-assisted endoscopic thyroidectomies | | General anesthesia |  | 150 | 1h before surgery / 12h after 1st dose | 150 | 1 |  | No | * Postoperative pain   Verbal numerical rating scale   * Side effects * Incidences of chronic pain and hypoesthesia of the anterior chest * Number of participant who required additional analgesics | 3mo |
|  | Placebo (n = 47) | |  |  | 0 | Same | 0 | 1 |  |  |  |
| Menda *et al.*  (2010)69 | 60 | Gabapentin (n = 30) | | Coronary artery bypass graft surgery (median sternotomy) | | General anesthesia |  | 600 | 2h before surgery | - | - |  | No | * Postoperative pain verbal rating scale * Total morphine utilization * Sedation score * Side effects * Number of patients who required additional morphine or paracetamol * respiratory depression * Postoperative nausea or vomiting * Pruritus | 48h |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Parikh *et al.*  (2010)70 | 60 | Gabapentin (n = 30) | | Abdominal surgery | | General anesthesia |  | 600 | 1h before surgery | - | - |  | No | * Postoperative pain * Rescue analgesia utilization * Postoperative nausea or vomiting * respiratory depression * Dizziness * Somnolence * Headache * Pruritus | 24h |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Pavoni *et al.*  (2010)71 | 50 | Pregabalin (n = 25) | | Surgery for inflammatory bowel diseases | | General anesthesia |  | 150 | 2h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization * Adverse effects * Satisfaction | 3mo |
|  | Placebo (n = 25) | |  |  | 0 | Same | - | - |  |  |  |
| Peng *et al.*  (2010)72 | 165 | Pregabalin 75 (n = 48) | | Laparoscopic cholecystectomy | | General anesthesia |  | 75 | 1h before surgery / 12h after surgery | 150 | 1 |  | No | * Postoperative pain * Time to first analgesic utilization * Discharge time from PACU * Analgesic utilization * General tolerability * Sleep quality * Quality of recovery * Adverse effects * Patient satisfaction | 7d |
|  | Pregabalin 50 (n = 48) | |  |  | 50 | Same | 100 | 1 |  |  |  |
|  | Placebo (n = 46) | |  |  | 0 | Same | 0 | 1 |  |  |  |
| Raghove *et al.*  (2010)73 | 90 | Gabapentin 1200 (n = 30) | | Single lower limb surgery | | Regional anesthesia |  | 1200 | 1h before surgery | - | - |  | No | * Postoperative pain intensity * Rescue analgesia utilization * Sedation * Side effects | 24h |
|  | Gabapentin 600 (n = 30) | |  |  | 600 | Same | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Rapchuk *et al.*  (2010)74 | 60 | Gabapentin (n = 27) | | Cardiac surgery via median sternotomy | | General anesthesia |  | 1200 | 2h before surgery / morning after surgery | 1200 | 2 |  | No | * Fentanyl utilization (48h) * Postoperative pain * Adjunctive pain medication * Sleep satisfaction * Side effects * Satisfaction | 72h |
|  | Placebo (n = 27) | |  |  | 0 | Same | 0 | 2 |  |  |  |
| Sanin *et al.*  (2010)75 | 292 | Pregabalin 150 (n = 98) | | Total knee arthroplasty | | Not mentioned |  | 150 | 12h+2h before surgery / after surgery | 150 | 14-42 |  | No | * Worst pain * Cumulative dose of opioids * Range of movements * General activity * Adverse effects | 6mo |
|  | Pregabalin 300 (n = 96) | |  | |  |  | 300 | Same | 300 | 14-42 |  |  |  |
|  | Placebo (n = 98) | |  | |  |  | 0 | Same | 0 | 14-42 |  |  |  |
| Schulmeyer *et al.*  (2010)76 | 82 | Pregabalin (n = 39) | | Sleeve gastrectomy | | General anesthesia |  | 150 | 2h before surgery | - | - |  | No | * Morphine utilization * Side effects * Satisfaction | 24h |
|  | Placebo (n = 41) | |  |  | 0 | Same | - | - |  |  |  |
| Srivastava *et al.*  (2010)77 | 127 | Gabapentin (n = 60) | | Minilap open cholecystectomy | | General anesthesia |  | 600 | 2h before surgery |  |  |  | No | * Postoperative pain * Tramadol utilization * Side effects | 48h |
|  | Placebo (n = 60) | |  |  | 0 | 2h before surgery |  |  |  |  |  |
| Tirault *et al.*  (2010)78 | 210 | Gabapentin (n = 66) | | Ear. nose. and throat surgery (22.4%). orthopaedic surgery (21.9%). spinal surgery (19.4%). Gastrointestinal surgery (18.9%). gynaecologic surgery (10.9%). and gastrointestinal endoscopic procedures (6.5%) | | General anesthesia |  | 1200 | 2h before surgery | - | - |  | Not mentioned | * Preoperative anxiety * Side effects | Not mentioned |
|  | Hydroxyzine (n = 66) | |  |  | 75 | Same | - | - |  |  |  |
|  | Placebo (n = 69) | |  |  | 0 | Same | - | - |  |  |  |
| Wang *et al.*  (2010)79 | 100 | Pregabalin (n = 36) | | Unilateral first metatarsal bunionectomy surgery | | Regional anesthesia |  | 300 | 1h before surgery / 8h after surgery | 450 | 2 |  | No | * Hydromorphone utilization * Time to first request of analgesia | 48h |
|  | Naproxen sodium (n = 34) | |  |  | 550 | 1h before surgery / 12h after surgery | 1100 | 1.5 |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Not mentioned | 0 | Not mentioned |  |  |  |
| Ghai *et al.*  (2011)80 | 90 | Pregabalin (n = 30) | | Abdominal hysterectomy | | General anesthesia |  | 300 | 1-2h before surgery | - | - |  | No | * Analgesic utilization * Postoperative pain * Adverse effects | 24h |
|  | Gabapentin (n = 30) | |  |  | 900 | Same | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Gonano *et al.*  (2011)81 | 40 | Pregabalin (n = 20) | | Arthroscopic knee surgery for partial meniscectomy | | General anesthesia |  | 300 | before surgery | - | - |  | No | * Anxiety before induction * Postoperative pain * Analgesic utilization | 24h |
|  | Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
| Gupta *et al.*  (2011)82 | 180 | Pregabalin (n = 60) | | Laparoscopic cholecystectomy | | General anesthesia |  | 150 | 75-90 min before surgery | - | - |  | No | * Preoperative sedation and anxiolysis * Hemodynamic responses to laryngoscopy and laparoscopy * Intraoperative analgesic requirement * Quality of postoperative recovery * Occurrence of premedication induced side effects | 3h |
|  | Clonidine (n = 60) | |  |  | 0.2 | Same | - | - |  |  |  |
|  | Placebo (n = 60) | |  |  | 0 | Same | - | - |  |  |  |
| Gupta *et al.*  (2011)83 | 80 | Pregabalin (n=40) | | Elective surgery | | General anesthesia |  | 150 | 1-1.25h before surgery | - | - |  | Not mentioned | * Hemodynamic stability * Adverse effects | 1h |
|  | Placebo (n=40) | |  |  | 0 | Same | - | - |  |  |  |
| Hegarty *et al.*  (2011)84 | 36 | Pregabalin (n = 14) | | Lumbar discectomy | | General anesthesia |  | 300 | 1h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization * Adverse effects | 24h |
|  | Placebo (n = 18) | |  |  | 0 | Same | - | - |  |  |  |
| Khahi *et al.*  (2011)85 | 64 | Gabapentin (n = 32) | | Internal fixation of the tibia | | Regional anesthesia |  | 300 | 2h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization * Time to first bolus of morphine * Side effects | 24h |
|  | Placebo (n = 32) | |  |  | 0 | Same | - | - |  |  |  |
| Khan *et al.*  (2011)86 | 175 | Gabapentin 1200 postoperation (n = 25) | | Single-level lumbar laminectomy | | General anesthesia |  | Placebo | 2h before surgery /Immediately after surgery | 1200 | 0 |  | No | * Postoperative pain * Total morphine utilization * Postoperative nausea or vomiting * Drowsiness * Dizziness | 24h |
|  | Gabapentin 1200 preoperation (n = 25) | |  |  | 1200 | Same | 0 | 0 |  |  |  |
|  | Gabapentin 900 postoperation (n = 25) | |  |  | 0 | Same | 900 | 0 |  |  |  |
|  | Gabapentin 900 preoperation (n = 25) | |  |  | 900 | Same | 0 | 0 |  |  |  |
|  | Gabapentin 600 postoperation (n = 25) | |  |  | 0 | Same | 600 | 0 |  |  |  |
|  | Gabapentin 600 preoperation (n = 25) | |  |  | 600 | Same | 0 | 0 |  |  |  |
|  | Placebo (n = 25) | |  |  | 0 | Same | 0 | 0 |  |  |  |
| Kim *et al.*  (2011)87 | 84 | Pregabalin (n = 42) | | Partial or total mastectomy | | General anesthesia |  | 75 | 1h before surgery / 12h after 1st dose | 75 | 1 |  | No | * Postoperative pain scores * Number of participants with side effects * Pain scores at 1 week and 1 month postoperation | 1mo |
|  | Placebo (n = 42) | |  |  | 0 | Same | 0 | 1 |  |  |  |
| Kim *et al.*  (2011)88 | 84 | Pregabalin 150 (n = 28) | | Posterior lumbar spinal fusion | | General anesthesia |  | 150 | 1h before surgery / 12h after surgery | 150 | 0.5 |  | No | * Postoperative pain * Ketorolac utilization * Sedation * Headache * Dizziness * Visual disturbances | 48h |
|  | Pregabalin 75 (n = 28) | |  |  | 75 | Same | 75 | 0.5 |  |  |  |
|  | Placebo (n = 28) | |  |  | 0 | Same | 0 | 0.5 |  |  |  |
| Kohli *et al.*  (2011)89 | 150 | Pregabalin 300 (n = 50) | | Hysterectomy | | Regional anesthesia |  | 300 | 1h before surgery | - | - |  | Not mentioned | * MAP * HR * Time to first rescue analgesia * Adverse events * Patient satisfaction | 1h |
|  | Pregabalin 150 (n = 50) | |  |  | 150 | Same | - | - |  |  |  |
|  | Placebo (n = 50) | |  |  | 0 | Same | - | - |  |  |  |
| Kuhnle *et al.*  (2011)90 | 83 | Gabapentin (n = 41) | | Photorefractive keratectomy | | Monitored anesthesia care |  | 900 | During 48h before surgery / 0-8h after surgery | 900 | 4 |  | No | * Postoperative pain * Oxycodone-acetaminophen use | 4d |
|  | Placebo (n = 41) | |  |  | 0 | 48h before surgery (each 8h) / direct after surgery | 0 | 4 |  |  |  |
| Macheridou *et al.*  (2011)91 | 34 | Pregabalin (n = 17) | | Radical modified mastectomy | | General anesthesia |  | 150 | night + 1h before surgery | - | - |  | No | * Tramadol and paracetamol requirement * Postoperative pain * Adverse effects | 72h |
|  | Placebo (n = 17) | |  |  | 0 | Same | - | - |  |  |  |
| Moore *et al.*  (2011)92 | 46 | Gabapentin (n = 21) | | Scheduled caesarean delivery | | Regional anesthesia |  | 600 | 1h before surgery | - | - |  | No | * Postoperative pain * Sedation * Pruritus * Postoperative nausea or vomiting * Dizziness * Opioid use * Persistent pain | 3mo |
|  | Placebo (n = 23) | |  |  | 0 | Same | - | - |  |  |  |
| Ozgencil *et al.*  (2011)93 | 90 | Pregabalin (n = 30) | | Decompressive lumbar laminectomy and discectomy | | General anesthesia |  | 150 | 2h before surgery / 10+22h after surgery | 300 | 2 |  | No | * Postoperative pain * Morphine utilization * Anxiety score * Vital signs * Sedation score * Nausea * Vomiting * Pruritus * Urinary retention * Somnolence * Dizziness * Vision abnormalities * Headache | 24h |
|  | Gabapentin (n = 30) | |  |  | 600 | Same | 1200 | 2 |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | 0 | 2 |  |  |  |
| Pesonen *et al.*  (2011)94 | 70 | Pregabalin (n = 29) | | CABG surgery with cardiopulmonary bypass (CPB) or single valve repair or replacement with CPB. | | General anesthesia |  | 75 | 1h before surgery / morning after surgery | 150 | 5 |  | No | * Postoperative pain at rest and on movement. * sedation * Oxycodone utilization * Length of stay * Postoperative nausea or vomiting * Ondansetron utilization * Chronic pain | 3mo |
|  | Lorazepam (n = 31) | |  |  | 0 | Same | 0 | 5 |  |  |  |
| Przesmycki *et al.*  (2011)95 | 80 | Pregabalin75 (n = 17) | | Abdominal hysterectomy | | General anesthesia |  | 75 | 1h before surgery | - | - |  | No | * Postoperative pain * Analgesic utilization * Adverse effects | 24h |
|  | Pregabalin 150 (n = 16) | |  |  | 150 | Same | - | - |  |  |  |
|  | Pregabalin 300 (n = 17) | |  |  | 300 | Same | - | - |  |  |  |
|  | Placebo (n = 24) | |  |  | 0 | Same | - | - |  |  |  |
| Soltanzadeh *et al.*  (2011)96 | 60 | Gabapentin (n = 30) | | Coronary artery bypass graft | | General anesthesia |  | 800 | 2h before surgery / 2h after surgery | 400 | 1 |  | No | * Postoperative pain * Morphine utilization * Side effects * Hemodynamic changes | 24h |
|  | Placebo (n = 30) | |  |  | 0 | Same | 0 | 1 |  |  |  |
| Spence *et al.*  (2011)97 | 70 | Gabapentin (n = 26) | | Shoulder arthroscopy surgery | | Regional ou general anesthesia |  | 300 | 1h before surgery / night after surgery | 600 | 2 |  | Yes | * Postoperative pain * Morphine utilization * Side effects * Sleep duration | 48h |
|  | Placebo (n = 31) | |  |  | 0 | Same | 0 | 2 |  |  |  |
| Spreng *et al.*  (2011)98 | 50 | Pregabalin (n = 22) | | Lumbar single level microdiscectomy | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Postoperative pain VAS scores at rest * Morphine utilization * Pre-operative anxiety * Occurrence of side effects | 24h |
|  | Placebo (n = 24) | |  |  | 0 | Same | - | - |  |  |  |
| Ucak *et al.*  (2011)99 | 40 | Gabapentin (n = 20) | | CABG surgery with cardiopulmonary bypass | | General anesthesia |  | 1200 | 1h before surgery / 1d after surgery | 1200 | 2 |  | No | * Postoperative pain * Tramadol usage * Side effects * Chronic pain (3 months) | 3mo |
|  | Placebo (n = 20) | |  |  | 0 | Same | 0 | 2 |  |  |  |
| Vahedi *et al.*  (2011)100 | 206 | Gabapentin (n = 36) | | Single level lumbar laminectomy and discectomy | | General anesthesia |  | 300 | 1h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization | 24h |
|  | Placebo (n = 40) | |  |  | 0 | Same | - | - |  |  |  |
| Yücel *et al.*  (2011)101 | 90 | Pregabalin 600 (n = 30) | | Total abdominal hysterectomy | | General anesthesia |  | 300 | 1h before surgery / 12h after surgery | 300 | 1 |  | No | * Morphine utilization for 24h postoperatively * Postoperative pain * Sedation * Patient satisfaction * Side effects | 24h |
|  | Pregabalin 300 (n = 30) | |  |  | 150 | Same | 150 | 1 |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | 0 | 1 |  |  |  |
| Adam *et al.*  (2012)102 | 64 | Gabapentin (n = 32) | | Orthopedic surgery or open inguinal hernia repair | | General anesthesia |  | 1200 | 2-3h before surgery | - | - |  | Yes | * Preoperative anxiety * Memory * Postoperative nausea or vomiting * Side effects | Not mentioned |
|  | Placebo (n = 32) | |  |  | 0 | Same | - | - |  |  |  |
| Ajori *et al.*  (2012)103 | 140 | Gabapentin (n = 69) | | Abdominal hysterectomy | | General anesthesia |  | 600 | 1h before surgery | - | - |  | No | * Postoperative pain * Analgesic requirement * Postoperative nausea or vomiting * Side effects | 24h |
|  | Placebo (n = 69) | |  |  | 0 | Same | - | - |  |  |  |
| Akarsu *et al.*  (2012)104 | 60 | Pregabalin (n = 30) | | Laparoscopic cholecystectomy | | General anesthesia |  | 300 | 1h before surgery | - | - |  | No | * Postoperative pain * Analgesic requirement * Side effects | 24h |
|  | Placebo+NSAID (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Ali *et al.*  (2012)105 | 60 | Pregabalin (n = 30) | | Open cholecystectomy | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Postoperative pain * Analgesic requirement * Postoperative nausea or vomiting * Side effects | 24h |
|  | Celecoxib (n = 30) | |  |  | 200 | Same | - | - |  |  |  |
| Alimian *et al.*  (2012)106 | 80 | Pregabalin (n = 40) | | Dacryocystorhinostomy (DCA) surgery | | General anesthesia |  | 300 | 1h before surgery | - | - |  | No | * Postoperative pain * Rate of analgesic administrated * Postoperative nausea or vomiting * Adverse effects | 24h |
|  | Placebo (n = 40) | |  |  | 0 | Same | - | - |  |  |  |
| Bala *et al.*  (2012)107 | 100 | Gabapentin 1200 (n = 34) | | Transurethral resection of bladder tumor | | Regional anesthesia |  | 1200 | 1h before surgery | - | - |  | No | * Incidence of catheter-relater bladder discomfort * Sensory and motor block * Adverse effects | 24h |
|  | Gabapentin 600 (n = 33) | |  |  | 600 | Same | - | - |  |  |  |
|  | Placebo (n = 33) | |  |  | 0 | Same | - | - |  |  |  |
| Balaban *et al.*  (2012)108 | 90 | Pregabalin 300 (n = 30) | | Laparoscopic cholecystectomy | | General anesthesia |  | 300 | 1h before surgery | - | - |  | No | * Postoperative pain Sedation * Fentanyl utilization * Side effects | 24h |
|  | Pregabalin 150 (n = 30) | |  |  | 150 | Same | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Behdad *et al.*  (2012)109 | 61 | Gabapentin (n = 30) | | Total abdominal hysterectomy | | General anesthesia |  | 400 | night before+2h before surgery | - | - |  | No | * Postoperative pain * Adverse effects * Blood pressure * Pulse rate * Morphine use | 24h |
|  | Placebo (n = 31) | |  |  | 0 | Same | - | - |  |  |  |
| Bornemann-Cimenti *et al.*  (2012)110 | 26 | Pregabalin (n = 13) | | Transperitoneal nephrectomy | | General anesthesia |  | 300 | 1h before surgery | - | - |  | No | * Postoperative pain * Opioid utilization * Adverse effects | 48h |
|  | Placebo (n = 13) | |  |  | 0 | Same | - | - |  |  |  |
| Brindley  (2012)111 | 50 | Gabapentin (n = 20) | | Total Knee Replacement | | Not mentioned |  | 600 | before surgery / 8h after surgery | 900 | 3 |  | No | * Postoperative pain * Narcotics utilization * Knee range of motion * Patient restfulness * Adverse events | 72h |
|  | Placebo (n = 17) | |  |  | 0 | Same | 0 | 3 |  |  |  |
| Chaparro *et al.*  (2012)112 | 110 | Pregabalin (n = 50) | | Cosmetic liposuction. mammoplasty or abdominoplasty | | General anesthesia |  | 150 | night before + 1h before surgery / after surgery Not mentioned | 150 | 4 |  | No | * Postoperative pain * Adverse effects * Postoperative nausea or vomiting * Postoperative analgesic requirement | 96h |
|  | Placebo (n = 49) | |  |  | 0 | Same | 0 | 4 |  |  |  |
| Chiravanich *et al.*  (2012)113 | 180 | Gabapentin (n = 84) | | Lower extremity orthopedic surgery | | Regional anesthesia |  | 600 | 2h before surgery | - | - |  | Not mentioned | * Incidence of pruritus * Onset time of pruritus * Adverse effects | 24h |
|  | Placebo (n = 84) | |  |  | 0 | Same | - | - |  |  |  |
| Çinar *et al.*  (2012)114 | 53 | Pregabalin (n = 26) | | Posterolateral thoracotomy | | General anesthesia |  | 150 | 1h before surgery | - | - |  | Yes | * Postoperative pain * Fentanyl and etodolac utilization * Pulmonary function test * Satisfaction | 72h |
|  | Placebo (n = 26) | |  |  | 0 | Same | - | - |  |  |  |
| Deniz *et al.*  (2012)115 | 51 | Gabapentin (n = 25) | | Radical retropubic Prostatectomy | | General anesthesia |  | 900 | 2h before surgery | - | - |  | No | * Postoperative pain * Tramadol utilization * Postoperative nausea or vomiting * Side effects * Patient satisfaction | 24h |
|  | Placebo (n = 26) | |  |  | 0 | Same | - | - |  |  |  |
| El Bakry *et al.*  (2012)116 | 60 | Gabapentin (n = 30) | | Cataract extraction | | Monitored anesthesia care |  | 1200 | 2h before surgery | - | - |  | No | * Postoperative pain * Anxiety * Sedation * Side effects | 12h |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Fassoulaki *et al.*  (2012)117 | 80 | Pregabalin (n = 30) | | Total abdominal hysterectomy or myomectomy | | General anesthesia |  | 300 | 14PM before surgery / 14PM after surgery | 450 | 5 |  | No | * Opioid utilization * Postoperative pain * Adverse effects | 3mo |
|  | Placebo (n = 37) | |  |  | 0 | Same | 0 | 5 |  |  |  |
| Foroozanfard *et al.*  (2012)118 | 50 | Gabapentin (n = 25) | | Total Abdominal Hysterectomy | | General anesthesia |  | 1200 | 1h before surgery | - | - |  | No | * Postoperative pain * Analgesic utilization * Adverse effects | 24h |
|  | Placebo (n = 25) | |  |  | 0 | Same | - | - |  |  |  |
| Ghai *et al.*  (2012)119 | 90 | Pregabalin (n = 30) | | Abdominal hysterectomy | | General anesthesia |  | 300 | 1h before surgery | - | - |  | No | * Preoperative anxiety * Sedation * Adverse effects | 12h |
|  | Gabapentin (n = 30) | |  |  | 900 | Same | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Gianesello *et al.*  (2012)120 | 60 | Pregabalin (n = 30) | | Decompressive lumbar laminectomy with spinal fusion | | General anesthesia |  | 300 | 1h before surgery / Not mentioned | 300 | 2 |  | No | * Postoperative pain * Side effects * Long term quality of life | 12mo |
|  | Placebo (n = 30) | |  |  | 0 | Same | 0 | 2 |  |  |  |
| Jain *et al.*  (2012)121 | 40 | Pregabalin (n = 20) | | Total knee arthroplasty | | Regional anesthesia |  | 75 | 2h before surgery / 6AM after surgery | 150 | 2 |  | Yes | * Postoperative pain * Morphine utilization * PCEA usage * Rescue analgesic requirement * Overall patient satisfaction * Adverse effects | 48h |
|  | Placebo (n = 20) | |  |  | 0 | Same | 0 | 2 |  |  |  |
| Khahi *et al.*  (2012)122 | 64 | Gabapentin (n = 32) | | Internal fixation of the tibia | | Regional anesthesia |  | 0 | immediate after surgery | 300 | 0 |  | No | * Postoperative pain * Morphine utilization * Time until first morphine administration | 24h |
|  | Placebo (n = 32) | |  |  | 0 | Same | 0 | 0 |  |  |  |
| Kinney *et al.*  (2012)123 | 146 | Gabapentin (n = 57) | | Thoracotomy | | General anesthesia |  | 600 | 2h before surgery | - | - |  | Yes | * Postoperative pain at rest and with coughing * opioid utilization * Number of participants with pain at surgical site at 3 months * Side effects | 48h |
|  | Diphenhydramine (n = 63) | |  |  | 12.5 | Same | - | - |  |  |  |
| Macheridou *et al.*  (2012)124 | 40 | Pregabalin (n = 20) | | Radical modified mastectomy | | General anesthesia |  | 150 | night + 1h before surgery / Not mentioned | 75 | 8 |  | No | * Tramadol and paracetamol requirement * Postoperative pain * Chronic pain * Adverse effects | 3mo |
|  | Placebo (n = 20 | |  |  | 0 | Same | 0 | 8 |  |  |  |
| Mohammed *et al.*  (2012)125 | 80 | Gabapentin (n = 40) | | Functional endoscopic sinus surgery | | General anesthesia |  | 1200 | 1h before surgery | - | - |  | No | * Intraoperative MAP * Infusion rates of the hypotensive agent * Assessment of pain * opioid usage * Side effects at 1h interval | 8h |
|  | Placebo (n = 40) | |  |  | 0 | Same | - | - |  |  |  |
| Nella *et al.*  (2012)126 | 50 | Pregabalin (n = 25) | | Surgery in patients with inflammatory bowel diseases | | General anesthesia |  | 150 | 2h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization * Adverse effects | 3mo |
|  | Placebo (n = 25) | |  |  | 0 | Same | - | - |  |  |  |
| Neogi *et al.*  (2012)127 | 60 | Gabapentin (n = 30) | | Laparoscopic cholecystectomy | | General anesthesia |  | 900 | 2h before surgery | - | - |  | Not mentioned | * MAP * HR * Sedation score * Dizziness * Somnolence * Bradycardia * Hypotension * Hypertension | PACU |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Nimmaanrat *et al.*  (2012)128 | 56 | Pregabalin (n = 27) | | Arthroscopic anterior cruciate ligament reconstruction | | Regional anesthesia |  | 75 | 1h before surgery / 11h after surgery | 75 | 0.5 |  | No | * Postoperative pain * Sedation score * Respiratory rate * Postoperative nausea or vomiting * Dizziness * Headache * Blurred vision * Global pain relief * Satisfaction of pain relief * Limitation of mobilization * Disturbance of sleep * Preference for stronger analgesic | 24h |
|  | Placebo (n = 29) | |  |  | 0 | Same | 0 | 0.5 |  |  |  |
| Pakravan *et al.*  (2012)129 | 150 | Gabapentin (n = 50) | | Post–photorefractive keratectomy | | Monitored anesthesia care |  |  | 2h after surgery | 900 | 3 |  | No | * Postoperative pain VAS * Percentage of patients with severe pain * Number of acetaminophen codeine pills taken * Side effects | 72h |
|  | Pregabalin (n = 50) | |  |  |  | Same | 225 | 3 |  |  |  |
|  | Placebo (n = 50) | |  |  |  | Same | 0 | 3 |  |  |  |
| Pandey *et al.*  (2012)130 | 76 | Gabapentin (n = 35) | | Laparoscopic cholecystectomy | | General anesthesia |  | 600 | 2h before surgery | - | - |  | No | * Incidence and severity of myalgia * Fasciculation grade * Total fentanyl requirement | 24h |
|  | Placebo (n = 35) | |  |  | 0 | Same | - | - |  |  |  |
| Rastogi *et al.*  (2012)131 | 90 | Pregabalin 150 (n = 30) | | Surgery | | General anesthesia |  | 150 | 1h before surgery | - | - |  | Not mentioned | * Haemodynamic stability post-operative side-effects | 3h |
|  | Pregabalin 75 (n = 30) | |  |  | 75 | Same | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Rimaz *et al.*  (2012)132 | 50 | Gabapentin (n = 25) | | Surgical debridement of burn wounds | | General anesthesia |  | 1200 | 2h before surgery | - | - |  | No | * Postoperative pain * Vitals sign * Morphine utilization * Side effects | 24h |
|  | Placebo (n = 25) | |  |  | 0 | Same | - | - |  |  |  |
| Rodgers  (2012)133 | 106 | Gabapentin (n = 48) | | Photorefractive Keratectomy | | Not mentioned |  | 0 | Not mentioned | 900 | 7 |  | No | * Postoperative pain * Occurrence of rescue medication | 4d |
|  | Placebo (n = 46) | |  |  | 0 | Not mentioned | 0 | 7 |  |  |  |
| Short *et al.*  (2012)134 | 132 | Gabapentin 600 (n = 42) | | Caesarean delivery | | Regional anesthesia |  | 600 | 1h before surgery | - | - |  |  | * Postoperative pain score on movement 24h * Postoperative pain at rest and on movement 6 12 24 and 48h * opioid utilization * Side effects * Time to supplemental analgesia * Chronic pain * Neonatal information | 48h |
|  | Gabapentin 300 (n = 42) | |  |  | 300 | Same | - | - |  | No |  |
|  | Placebo (n = 42) | |  |  | 0 | Same | - | - |  |  |  |
| Sundar *et al.*  (2012)135 | 60 | Pregabalin (n = 30) | | Off-pump coronary artery bypass grafting | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Hemodynamic response to intubation and fentanyl utilization during surgery * Postoperative pain * Sedation score * Side-effects | 24h |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| YaDeau *et al.*  (2012)136 | 60 | Pregabalin (n = 28) | | After foot or ankle surgery | | Regional anesthesia |  | 100 | 1h before surgery / 12h after surgery | 100 | 3 |  | Yes | * Number of hours that patients reported moderate to severe pain * Postoperative pain * Side effects * opioid utilization | 48h |
|  | Placebo (n = 28) | |  |  | 0 | Same | 0 | 3 |  |  |  |
| Akhavanakbari *et al.*  (2013)137 | 60 | Pregabalin (n = 30) | | Lower limb surgery | | Regional anesthesia |  | 150 | 2h before surgery | - | - |  | No | * Postoperative pain * Pethidine requirement * Sedation * Postoperative nausea or vomiting | 24h |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Aydoǧan *et al.*  (2013)138 | 64 | Pregabalin (n = 30) | | Percutaneous nephrolithotomy | | General anesthesia |  | 75 | 1h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization * Side effects | 24h |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Azemati *et al.*  (2013)139 | 100 | Gabapentin (n = 50) | | Modified radical mastectomy (MRM) or quadrantectomy and axillary node dissection | | General anesthesia |  | 600 | 30 min before surgery | - | - |  | No | * Agitation score * Postoperative pain * Postoperative nausea or vomiting * Side effects | 8h |
|  | Placebo (n = 50) | |  |  | 0 | Same | - | - |  |  |  |
| Bharti *et al.*  (2013)140 | 40 | Gabapentin (n = 20) | | Total mastectomy with axillary node dissection for carcinoma breast | | General anesthesia |  | 600 | 2h before surgery | - | - |  | No | * Duration of surgery * Propofol requirement during induction and maintenance of anesthesia * Total utilization of fentanyl and vecuronium * Hemodynamic variables * Side effects | 24h |
|  | Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
| Clarke *et al.*  (2013)141 | 50 | Gabapentin (n = 22) | | Non-cardiac surgery | | Not mentioned |  | 1200 | 2.5h before surgery | - | - |  | Not mentioned | * Pre and post operative pain * Anxiety * Adverse effects | 1h |
|  | Placebo (n = 22) | |  |  | 0 | Same | - | - |  |  |  |
| El Rahmawy *et al.*  (2013)142 | 86 | Pregabalin (n = 43) | | General surgeries below the umbilicus | | Regional anesthesia |  | 150 | 2h before surgery | - | - |  | No | * Sensory level * Motor block grade postoperative time to first analgesic requirement * Incidence. onset and intensity of Postdural puncture headache * Adverse events | 72h |
|  | Placebo (n = 43) | |  |  | 0 | Same | - | - |  |  |  |
| Eskandar *et al.*  (2013)143 | 80 | Pregabalin (n = 40) | | Shoulder arthroscopy | | General anesthesia |  | 300 | 12h+1h before surgery | - | - |  | No | * Postoperative pain * Anxiety scores * Vital signs * Sedation scores * Nalbuphine utilization * Postoperative nausea or vomiting * Side effects | 24h |
|  | Placebo (n = 40) | |  |  | 0 | Same | - | - |  |  |  |
| Frouzanfard *et al.*  (2013)144 | 50 | Gabapentin (n = 25) | | Abdominal hysterectomy | | General anesthesia |  | 1200 | 2h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization | 24h |
|  | Placebo (n = 25) | |  |  | 0 | Same | - | - |  |  |  |
| Jahromi *et al.*  (2013)145 | 150 | Metoclopramide (n = 30) | | Open reduction and internal rigid fixation of their maxillofacial skeletal trauma | | General anesthesia |  | 10 | 1h before surgery | - | - |  | No | * Postoperative nausea or vomiting | 24h |
|  | Gabapentin (n = 30) | |  |  | 300 | Same | - | - |  |  |  |
|  | Chlorpromazine (n = 30) | |  |  | 25 | Same | - | - |  |  |  |
|  | Dexamethasone (N = 30) | |  |  | 5 | Same | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Joshi *et al.*  (2013)146 | 40 | Pregabalin (n = 20) | | Off-pump coronary artery bypass (OPCAB) surgery | | General anesthesia |  | 150 | 2h before surgery / after surgery Not mentioned | 150 | 2 |  | No | * Postoperative pain VAS at rest and during deep breathing * Sedation scores * Time to extubation * Tramadol utilization * Side effects * Chronic pain | 3mo |
|  | Placebo (n = 20) | |  |  | 0 | Same | 0 | 2 |  |  |  |
| Kavitha *et al.*  (2013)147 | 56 | Gabapentin (n = 28) | | Cataract surgery | | Regional anesthesia |  | 600 | 2h before surgery | - | - |  | Yes | * Sedation * Anxiety * HR * MAP * Intraocular pressure * Midazolam supplementation * Recovery score * Postoperative analgesia * Side effects | 6h |
|  | Diazepam (n = 28) | |  |  | 0.15 mg/kg | Same | - | - |  |  |  |
| Khan *et al.*  (2013)148 | 70 | Gabapentin (n = 34) | | Total abdominal hysterectomy | | General anesthesia |  | 1200 | 2h before surgery | - | - |  | No | * Postoperative pain * Nalbuphine utilization | 24h |
|  | Placebo (n = 35) | |  |  | 0 | Same | - | - |  |  |  |
| Khezri *et al.*  (2013)149 | 120 | Gabapentin (n = 40) | | Cataract surgery by phacoemulsification | | Monitored anesthesia care |  | 600 | before surgery | - | - |  | No | * Pain score intra and post-operative * Anxiety score * Hemodynamic parameter measurements * Satisfaction of surgeon | Not mentioned |
|  | Melatonin (n = 40) | |  |  | 6 | Same | - | - |  |  |  |
|  | Placebo (n = 40) | |  |  | 0 | Same | - | - |  |  |  |
| Koyuncu *et al.*  (2013)150 | 60 | Pregabalin (n = 30) | | Radical mastectomy | | General anesthesia |  | 150 | 1h before surgery + 12h after surgery | 75 | 1 |  | No | * Postoperative pain * Analgesic utilization * Adverse effects | 24h |
|  | Placebo (n = 30) | |  |  | 0 | 1h before surgery | 0 | 1 |  |  |  |
| Kumar *et al.*  (2013)151 | 75 | Pregabalin (n = 25) | | Decompressive lumbar laminectomy | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Postoperative pain * Sedation score * Anxiety score * Blood pressure * HR * RR * Rescue analgesia * Postoperative nausea or vomiting * Constipation * Drowsiness | 6h |
|  | Tramadol (n = 25) | |  |  | 100 | Same | - | - |  |  |  |
|  | Placebo (n = 25) | |  |  | 0 | Same | - | - |  |  |  |
| Lee *et al.*  (2013)152 | 80 | Gabapentin (n = 36) | | Total or hemi-total thyroidectomy | | General anesthesia |  | 600 | 1h before surgery | - | - |  | No | * Postoperative pain * Incidence of postoperative sore throat * Number of times of rescue analgesia * Side effects | 24h |
|  | Placebo (n = 35) | |  |  | 0 | Same | - | - |  |  |  |
| Maleh *et al.*  (2013)153 | 80 | Gabapentin (n = 40) | | Laparoscopic Cholecystectomy | | General anesthesia |  | 600 | 1h before surgery | - | - |  | No | * Morphine utilization (24h) * Postoperative pain * Adverse effects | 24h |
|  | Placebo (n = 40) | |  |  | 0 | Same | - | - |  |  |  |
| Mardani-Kivi *et al.*  (2013)154 | 114 | Gabapentin (n = 55) | | Anterior Cruciate Ligament Reconstruction | | General anesthesia |  | 600 | 2h before surgery | - | - |  | No | * Postoperative pain * Pethidine utilization * Nausea * Vomiting * Dizziness * Sedation | 24h |
|  | Placebo (n = 53) | |  |  | 0 | Same | - | - |  |  |  |
| Mishra *et al.*  (2013)155 | 50 | Pregabalin (n = 25) | | Thoracotomies | | General anesthesia |  | 150 | 1h before surgery / 12h after surgery | 150 | 21 |  | No | * Chronic pain * Postoperative pain * Diclofenac utilization | 24w |
|  | Diclofenac sodium (n = 25) | |  |  | 0 | 1h before surgery / 8h after surgery | Placebo | 7 regular. after: on demand |  |  |  |
| Misra *et al.*  (2013)156 | 79 | Gabapentin (n = 36) | | Craniotomy for various intracranial tumors | | General anesthesia |  | 600 | 2h before surgery | - | - |  | No | * Postoperative nausea or vomiting * Postoperative pain * Fentanyl requirement | 24h |
|  | Placebo (n = 37) | |  |  | 0 | Same | - | - |  |  |  |
| Not mentioned  (2013)157 | 72 | Pregabalin (n = 27) | | Total hip replacement | | Regional anesthesia |  | 0 | after surgery | 150 | 14 |  | No | * Postoperative pain * Anxiety * Time to mobilization * Rescue medication usage * Adverse effects | 14d |
|  | Placebo (n = 27) | |  |  | 0 | Same | 0 | 14 |  |  |  |
| Paul *et al.*  (2013)158 | 101 | Gabapentin (n = 52) | | Primary total knee arthroplasty | | Regional anesthesia |  | 600 | 2h before surgery / 8h after surgery | 600 | 2 |  | No | * Morphine utilization * Postoperative pain * Side effects * Patient satisfaction * Knee range of motion * Perioperative hemodynamic * Respiratory variables | 72h |
|  | Placebo (n = 49) | |  |  | 0 | Same | 0 | 2 |  |  |  |
| Sagit *et al.*  (2013)159 | 150 | Pregabalin 150 (n = 46) | | Septoplasty | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Postoperative pain * NSAID utilization * Side effects | 24h |
|  | Pregabalin 75 (n = 50) | |  |  | 75 | Same | - | - |  |  |  |
|  | Placebo (n = 47) | |  |  | 0 | Same | - | - |  |  |  |
| Sarakatsianou *et al.*  (2013)160 | 50 | Pregabalin (n = 20) | | Laparoscopic cholecystectomy | | General anesthesia |  | 600 | night before + 1h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization * Side effects * Postoperative nausea or vomiting | 24h |
|  | Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
| Siddiqui *et al.*  (2013)161 | 82 | Gabapentin (n = 36) | | Open bowel surgery | | General anesthesia |  | 600 | 1h before surgery | - | - |  | No | * Postoperative pain * Opioid utilization * Length of stay * Side effects * Opioid-related symptom distress scale | 48h |
|  | Placebo (n = 36) | |  |  | 0 | Same | - | - |  |  |  |
| Talikoti *et al.*  (2013)162 | 60 | Pregabalin (n = 30) | | Not mentioned | | General anesthesia |  | 150 | 1h before surgery | - | - |  | Not mentioned | * Heart rate and blood pressure following laryngoscopy * Adverse effects | Not mentioned |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Ayatollahi *et al.*  (2014)163 | 30 | Gabapentin (n = 15) | | Microlaryngeal surgery | | General anesthesia |  | 900 | night before+ 1.5h before surgery | - | - |  | Not mentioned | * Hemodyn stability after laryngoscopy * Adverse effects | 25 mins |
|  | Placebo (n = 15) | |  |  | 0 | Same | - | - |  |  |  |
| Bafna *et al.*  (2014)164 | 90 | Pregabalin (n = 30) | | Gynecological surgeries | | Regional anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Postoperative pain * Mean time of onset of analgesia * Level of sensory block at 5 min and 10 min interval * Onset of motor block * Total duration of analgesia and * Total requirement of rescue analgesia * Hemodynamics * Side effects | 24h |
|  | Gabapentin (n = 30) | |  |  | 600 | Same | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Bekawi *et al.*  (2014)165 | 90 | Pregabalin (n = 30) | | Laparoscopic cholecystectomy | | General anesthesia |  | 150 | 2h before surgery / 12h after surgery | 300 | 2 |  | No | * Postoperative pain * Side effects * Postoperative nausea or vomiting * Opioid utilization * Global satisfaction | 24h |
|  | Gabapentin (n = 30) | |  |  | 1200 | Same | 1200 | 2 |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | 0 | 2 |  |  |  |
| Carvalho *et al.*  (2014)166 | 204 | Gabapentin (n = 93) | | Caesarean | | Regional anesthesia |  | 600 | before surgery + 8h after surgery | 600 | 2 |  | No | * Postoperative pain * Satisfaction * Morphine requirement * Side effects * APGAR score | 48h |
|  | Placebo (n = 93) | |  |  | 0 | Same | 0 | 2 |  |  |  |
| Chotton *et al.*  (2014)167 | 90 | Pregabalin (n = 45) | | Abdominal hysterectomy | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Postoperative pain * Analgesic requirement * Postoperative nausea or vomiting * Sedation | 24h |
|  | Placebo (n = 45) | |  |  | 0 | Same | - | - |  |  |  |
| Clarke *et al.*  (2014)168 | 179 | Gabapentin (n = 88) | | Total knee arthroplasty | | Regional anesthesia |  | 600 | 2h before surgery / 8h after surgery | 600 | 4 |  | No | * Timed up and go test * Stair test * 6 minute walk test * Western Ontario and McMaster Universities Osteoarthritis Index function scores * Opioid utilization * Range of motion * Adverse effects * Anxiety * Depression score | 3mo |
|  | Placebo (n = 77) | |  |  | 0 | Same | 0 | 4 |  |  |  |
| Debaecker *et al.*  (2014)169 | 90 | Gabapentin (n = 41) | | Thyroid surgery | | General anesthesia |  | 1200 | 2h before surgery | - | - |  | Not mentioned | * Chronic pain | 6mo |
|  | Placebo (n = 42) | |  |  | 0 | Same | - | - |  |  |  |
| Eman *et al.*  (2014)170 | 40 | Pregabalin (n = 20) | | Total abdominal hysterectomy surgery | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * systolic blood pressure * diastolic blood pressure * Mean blood pressure * HR * SpO2 * Postoperative pain VAS scores * Ramsay Sedation Scale * Total morphine utilization * Postoperative nausea or vomiting * Side effects | 24h |
|  | Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
| Ercan *et al.*  (2014)171 | 34 | Gabapentin (n = 16) | | Carotid endartectomy | | Regional anesthesia |  | 600 | 1h before surgery | - | - |  | Yes | * Hemodynamic parameters * Sedation * Cooperation * Cortisol level * Analgesic requirement | 24h |
|  | Placebo (n = 17) | |  |  | 0 | Same | - | - |  |  |  |
| George *et al.*  (2014)172 | 101 | Pregabalin 150 (n = 28) | | Open elective abdominal hysterectomy | | General anesthesia |  | 150 | 2h before surgery / 12h after first dose | 150 | 0.5 |  | No | * Postoperative pain * Morphine utilization * Adverse effects | 24h |
|  | Pregabalin 75 (n = 31) | |  |  | 75 | Same | 75 | 0.5 |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | 0 | 0.5 |  |  |  |
| Grosen *et al.*  (2014)173 | 104 | Gabapentin (n = 30) | | Anterior thoracotomy | | General anesthesia |  | 1200 | 2h before surgery / 12h after surgery | day 1: 600. day 2: 900. day 3-5: 1200 | 5 |  | Yes | * Persistent post-thoracotomy pain at 6 months * Early postoperative post-thoracotomy pain * Morphine requirements * Recovery and * Analgesia-related adverse effects over the first 3 weeks * Persistent post-thoracotomy pain at 3 months * Adverse effects | 6mo |
|  | Placebo (n = 37) | |  |  | 0 | Same | 0 | 5 |  |  |  |
| Işik *et al.*  (2014)174 | 90 | Gabapentin (n = 30) | | Endodontic procedures | | Monitored anesthesia care |  | 600 | 30 min before surgery | - | - |  | No | * Postoperative pain VAS score * Adverse effects | 24h |
|  | Lornoxicam (n = 30) | |  |  | 8 | Same | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Joseph *et al.*  (2014)175 | 75 | Gabapentin (n = 25/25) | | Abdominal hysterectomy with a lower abdominal incision | | General anesthesia |  | 600 | night before and 2h before surgery | - | - |  | No | * VAS postoperative pain * Morphine utilization * Sedation levels * Side effects | 24h |
|  | Alprazolam (n = 25/25) | |  |  | 0.5 | Same | - | - |  |  |  |
|  | Placebo (n = 25/25) | |  |  | 0 | same | - | - |  |  |  |
| Karbić *et al.*  (2014)176 | 60 | Gabapentin (n = 30) | | Abdominal hysterectomy | | General anesthesia |  | 600 | 1h before surgery |  |  |  | No | * Postoperative pain VAS scale * Cortisol levels * Cathecolamine levels | 24h |
|  | Placebo (n = 30) | |  |  | 0 | Same |  |  |  |  |  |
| Khurana *et al.*  (2014)177 | 90 | Gabapentin (n = 30) | | Spinal surgery | | General anesthesia |  | 300 | 1h before surgery / 8h after surgery | 900 | 7 |  | No | * Postoperative pain * Hemodynamics * SpO2 * RR * Sedation * Postoperative nausea or vomiting * Dizziness * Dry mouth * General fatigue * Somnolence * Itching * Headache * Urinary retention * Analgesic requirement | 3mo |
|  | Pregabalin (n = 30) | |  |  | 75 | Same | 225 | 7 |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | 0 | 7 |  |  |  |
| Kılıç *et al.*  (2014)178 | 90 | Gabapentin (n = 30) | | Functional endoscopic sinus surgery | | General anesthesia |  | 1200 | 1h before surgery | - | - |  | No | * Postoperative pain * Analgesic utilization * Adverse effects | 24h |
|  | Namesulide (n = 30) | |  |  | 100 | Same | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Kim *et al.*  (2014)179 | 47 | Pregabalin (n = 24) | | Septoplasty | | General anesthesia |  | 150 | 1h before surgery / 12h after 1st dose | 150 | 0.5 |  | No | * Postoperative pain * Postoperative nausea or vomiting * Sedation * Headache * Dizziness * Number of patients required analgesics | 48h |
|  | Placebo (n = 23) | |  |  | 0 | Same | 0 | 0.5 |  |  |  |
| Koşucu *et al.*  (2014)180 | 62 | Gabapentin (n = 29) | | Posterolateral or lateral thoracotomies | | General anesthesia |  | 1200 | 1h before surgery | - | - |  | No | * Time to first analgesic requirement * Postoperative pain * Chronic pain | 48h |
|  | Placebo (n = 31) | |  |  | 0 | Same | - | - |  |  |  |
| Mahoori *et al.*  (2014)181 | 50 | Gabapentin (n = 25) | | Unilateral herniorrhaphy | | Regional anesthesia |  | 400 | 2h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization * Side effects | 24h |
|  | Placebo (n = 25) | |  |  | 0 | Same | - | - |  |  |  |
| Meek *et al.*  (2014)182 | 135 | Pregabalin (n = 67) | | Photorefractive Keratectomy | | Monitored anesthesia care |  | 75 | 2h before surgery + 12h after first dose | 150 | 4 |  | No | * Postoperative pain * McGill Pain Questionnaire * Side effects | 4d |
|  | Placebo (n = 63) | |  |  | 0 | Same | 0 | 4 |  |  |  |
| Nasr *et al.*  (2014)183 | 40 | Pregabalin (n = 20) | | Laparoscopic adhesiolysis for infertility | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Preoperative level of anxiety * Postoperative pain VAS * Analgesic utilization * Level of sedation * Incidence of side effects | 12h |
|  | Melatonin (n = 20) | |  |  | 6 | Same | - | - |  |  |  |
| Nofal *et al.*  (2014)184 | 88 | Gabapentin (n = 42) | | Caesarean section | | Regional anesthesia |  | 600 | 2h before surgery | - | - |  | No | * Postdural puncture headache * Paracetamol / diclofenac utilization * Adverse reactions * Neonatal outcomes | 4d |
|  | Placebo (n = 44) | |  |  | 0 | Same | - | - |  |  |  |
| Nutthachote *et al.*  (2014)185 | 56 | Pregabalin (n = 27) | | Laparoscopic gynecological surgery | | General anesthesia |  | 75 | 2h before surgery / 12h after surgery | 150 | 1.5 |  | No | * Postoperative pain for shoulder and surgical pain * Meperidine and acetaminophen utilization * Nausea * Vomiting * Blurred vision * Vertigo * Ataxia * Oversedation | 48h |
|  | Placebo (n = 27) | |  |  | 0 | Same | 0 | 1.5 |  |  |  |
| Ogunnaike  (2014)186 | 80 | Pregabalin (n = 23) | | Unilateral modified radical mastectomy or lumpectomy with axillary node dissection | | General anesthesia |  | 300 | 1-2hrs before surgery +12h after surgery | 300 | 14 |  | No | * Opioid requirement * Postoperative pain * Adverse effects | 14d |
|  | Placebo (n = 24) | |  |  | 0 | Same | 0 | 14 |  |  |  |
| Pandey *et al.*  (2014)187 | 115 | Pregabalin (n = 35) | | Laparoscopic cholecystectomy | | General anesthesia |  | 150 | 2h before surgery | - | - |  | No | * Postoperative pain * Fentanyl requirement * Incidence and severity of myalgia | 24h |
|  | Gabapentin (n = 37) | |  |  | 600 | Same | - | - |  |  |  |
|  | Diclofenac (n = 35) | |  |  | 100 | Same | - | - |  |  |  |
| Prasad *et al.*  (2014)188 | 90 | Pregabalin (n = 30) | | Vaginal hysterectomy | | Regional anesthesia |  | 150 | 1.5h before surgery | - | - |  | No | * Postoperative pain * Duration of spinal anesthesia * Diclofenac requirement * Level of sedation * Side effects | 24h |
|  | Clonidine (n = 30) | |  |  | 150 | Same | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Rajendran *et al.*  (2014)189 | 90 | Pregabalin (n = 30) | | Lower abdominal and limb surgery | | Regional anesthesia |  | 300 | 1h before surgery | - | - |  | No | * Time for first dose of rescue analgesia * Total dose of rescue of rescue analgesia in 72 hours * Adverse effects | 72h |
|  | Gabapentin (n = 30) | |  |  | 900 | 1h before surgery | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Singla *et al.*  (2014a)190 | 425 | Pregabalin 300 (n = 101) | | Unilateral inguinal herniorrhaphy | | General anesthesia |  | 300 | 12h+2h before surgery / 12h after surgery | 300 | 7 |  | No | * Worst pain post surgery * Postoperative pain * Time from end of surgery to first rescue medication * Anxiety * Adverse events | 14d |
|  | Pregabalin 150 (n = 99) | |  |  | 150 | Same | 150 | 7 |  |  |  |
|  | Pregabalin 50 (n = 102) | |  |  | 50 | Same | 50 | 7 |  |  |  |
|  | Placebo (n = 101) | |  |  | 0 | Same | 0 | 7 |  |  |  |
| Singla *et al.*  (2014b)190 | 307 | Pregabalin 300 (n = 89) | | Total knee arthroplasty | | Regional anesthesia |  | 300 | 12h+2h before surgery / 12h after surgery | 300 | 42 |  | No | * Worst Postoperative pain * Postoperative pain * Range of motion * Opioid utilization * Adverse effects | 6mo |
|  | Pregabalin 150 (n = 94) | |  |  | 150 | Same | 150 | 42 |  |  |  |
|  | Placebo (n = 87) | |  |  | 0 | Same | 0 | 42 |  |  |  |
| Singla *et al.*  (2014c)190 | 501 | Pregabalin 300 (n = 149) | | Abdominal hysterectomy | | General anesthesia |  | 300 | 12h+2h before surgery / 12h after surgery | 300 | 28 |  | No | * Postoperative pain * Chronic pain * Opioid utilization * Adverse effects | 6mo |
|  | Pregabalin 150 (n = 151) | |  |  | 150 | Same | 150 | 28 |  |  |  |
|  | Placebo (n = 156) | |  |  | 0 | Same | 0 | 28 |  |  |  |
| Srivastava *et al.*  (2014)191 | 64 | Pregabalin (n = 31) | | Spine surgery | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Fasciculation * Myalgia * Fentanyl utilization * Side effects | 24h |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Tiwari *et al.*  (2014)192 | 120 | Gabapentin (n = 30) | | Below umbilical surgeries | | Regional anesthesia |  | 600 | 1h before surgery | - | - |  | No | * Onset and duration of sensory and motor blockade * Analgesic requirement * Adverse effects | 24h |
|  | Eterocoxib (n = 30) | |  |  | 120 | Same | - | - |  |  |  |
|  | Clonidine (n = 30) | |  |  | 0.15 | Same | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Tunç *et al.*  (2014)193 | 40 | Pregabalin (n = 20) | | Posterior thoracotomy | | Regional ou general anesthesia |  | 150 | 1h before surgery | - | - |  | Yes | * Postoperative pain * Opioid utilization * Chronic pain * Adverse effects | 6mo |
|  | Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
| Vahabi *et al.*  (2014)194 | 120 | Gabapentin (n = 60) | | Urologic or lower abdominal surgery | | Regional anesthesia |  | 300 | 1h before surgery / 12h after surgery | 600 | 1 |  | No | * Severity of headache * Postoperative pain * Morphine utilization * Postoperative nausea or vomiting * Somnolence * Pruritus * Dizziness * Hypertension * Hypotension * Bradycardia * Tachycardia | 48h |
|  | Placebo (n = 60) | |  |  | 0 | Same | 0 | 1 |  |  |  |
| Amminikutty *et al.*  (2015)195 | 120 | Gabapentin (n = 40) | | Total abdominal hysterectomy | | Regional anesthesia |  | 300 | 1.5h before surgery | - | - |  | Yes | * Postoperative pain * Analgesic requirement * Postoperative nausea or vomiting * Side effects | 24h |
|  | Clonidine (n = 40) | |  |  | 0.15 | Same | - | - |  |  |  |
|  | Placebo (n = 40) | |  |  | 0 | Same | - | - |  |  |  |
| Bala *et al.*  (2015)196 | 100 | Gabapentin 1600 (n = 34) | | Surgery | | General anesthesia |  | 1600 | night before+2h before surgery | - | - |  | Not mentioned | * Hypotension * Bradycardia * Tachycardia * Hypertension arrhythmia and ST-T wave changes * Adverse effects | 10 mins |
|  | Gabapentin 800 (n = 32) | |  |  | 800 | 2h before surgery | - | - |  |  |  |
|  | Placebo (n = 34) | |  |  | 0 | night before+2h before surgery | - | - |  |  |  |
| Batista *et al.*  (2015)197 | 72 | Gabapentin (n = 36) | | Abdominal hysterectomy | | General anesthesia |  | 600 | 2h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization * Sedation * Postoperative nausea or vomiting * Side effects * Patient satisfaction | 24h |
|  | Placebo (n = 36) | |  |  | 0 | Same | - | - |  |  |  |
| Bhure *et al.*  (2015)198 | 80 | Gabapentin (n = 40) | | Laparoscopic cholecystectomy | | General anesthesia |  | 600 | 2h before surgery | - | - |  | No | * Tramadol requirement (postoperative) * Fentanyl requirement (intraoperative) * Adverse effects | 24h |
|  | Placebo (n = 40) | |  |  | 0 | Same | - | - |  |  |  |
| Brulotte *et al.*  (2015)199 | 114 | Pregabalin (n = 50) | | Thoracotomy | | General anesthesia |  | 150 | 1h before surgery / 12h after 1st dose | 300 | 4 |  | Yes | * Postthoracotomy pain syndrome * Postoperative pain * Opioid utilization | 3mo |
|  | Placebo (n = 49) | |  |  | 0 | Same | 0 | 4 |  |  |  |
| Clarke *et al.*  (2015)200 | 184 | Pregabalin (n = 83) | | Primary total hip arthroplasty | | Regional anesthesia |  | 150 | 2h before surgery / 8h after first dose | 150 | 7 |  | No | * Timed get-up and- go test * Stair test * 6 min walk test * Western Ontario and McMaster Universities Osteoarthritis Index function * Chronic pain * Opioid utilization * Adverse effects | 3mo |
|  | Placebo (n = 79) | |  |  | 0 | Same | 0 | 7 |  |  |  |
| Esmat *et al.*  (2015)201 | 78 | Pregabalin 300 (n = 25) | | Laparoscopic cholecystectomy | | General anesthesia |  | 300 | 2h before surgery | - | - |  | No | * Postoperative pain * Sedation * Postoperative monitoring of heart rate * Mean systolic and mean diastolic blood pressure * Side effects | 6h |
|  | Pregabalin 150 (n = 25) | |  |  | 150 | Same | - | - |  |  |  |
|  | Paracetamol (n = 25) | |  |  | 1000 | Same | - | - |  |  |  |
| Faraji *et al.*  (2015)202 | 100 | Gabapentin (n = 50) | | Abdominal hysterectomy | | General anesthesia |  | 0 | 8 + 16 h after surgery | 600 | 0 |  | No | * Postoperative pain * Pethedine utilization * Adverse effects | 24h |
|  | Placebo (n = 50) | |  |  | 0 | Same | 0 | 0 |  |  |  |
| Francois *et al.*  (2015)203 | 63 | Pregabalin 100 (n = 16) | | Knee arthroscopy | | General anesthesia |  | 100 | 30 mins before surgery */* 8h after surgery | 300 | 2 |  | No | * Time to first rescue analgesia * Opioid utilization * PACU length of stay * Postoperative pain * Adverse effects | 48h |
|  | Pregabalin 300 (n = 20) | |  |  | 300 | 31 mins before surgery */* 8h after surgery | 900 | 2 |  |  |  |
|  | Placebo (n = 18) | |  |  | 0 | 32 mins before surgery */* 8h after surgery | 0 | 2 |  |  |  |
| Hamal *et al.*  (2015)204 | 52 | Gabapentin (n = 26) | | Lower extremity orthopedic surgery | | Regional anesthesia |  | 600 | 2h before surgery | - | - |  | No | * Opioid utilization * Postoperative pain * Adverse effect | 24h |
|  | Placebo (n = 26) | |  |  | 0 | Same | - | - |  |  |  |
| Hassani *et al.*  (2015)205 | 60 | Gabapentin (n = 30) | | Laparoscopic gastric bypass surgery | | General anesthesia |  | 100 | 1h before surgery | - | - |  | No | * Postoperative pain * Side effects | 6h |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Heidari *et al.*  (2015)206 | 90 | Gabapentin (n = 30) | | Middle ear surgery | | General anesthesia |  | 300 | 1h before surgery | - | - |  | Not mentioned | * Postoperative nausea or vomiting * Adverse effects | 24h |
|  | Granisetron (n = 30) | |  |  | 3 | 2 min before surgery | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Not mentioned | - | - |  |  |  |
| Kumar *et al.*  (2015)207 | 60 | Gabapentin (n = 30) | | Orthopedic surgeries | | Regional anesthesia |  | 300 | 2h before surgery | - | - |  | No | * Postoperative pain * Opioid requirement * Change in heart rate and blood pressure * Postoperative nausea or vomiting * Adverse effects | 24h |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Lee *et al.*  (2015)208 | 41 | Pregabalin (n = 21) | | Total knee arthroplasty | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Postoperative pain * Analgesic utilization * Functional recovery * Adverse effects | 48h |
|  | Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
| Lunn *et al.*  (2015)209 | 300 | Gabapentin high dose(n = 91) | | Total knee arthroplasty | | General anesthesia or Regional anesthesia |  | 900 | 2h before surgery / 10PM after surgery | 1300 | 6 |  | No | * Postoperative pain * Sedation * Rescue analgesic * Side effects * Anxiety/depression * Gabapentin level in blood-sample | 7d |
|  | Gabapentin low dose(n = 92) | |  |  | 600 | Same | 900 | 6 |  |  |  |
|  | Placebo (n = 91) | |  |  | 0 | Same | 0 | 6 |  |  |  |
| Mahran *et al.*  (2015)210 | 90 | Pregabalin (n = 30) | | Modified radical mastectomy | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization * Sedation * Postoperative nausea or vomiting * Dizziness * Visual disturbances * Nightmares * Hallucinations | 24h |
|  | Ketamine (n = 30) | |  |  | 0.5 mg/kg | Same | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Mansor *et al.*  (2015)211 | 49 | Pregabalin (n = 25) | | Mastectomy with or without axillary lymph nodes dissection | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Postoperative pain * Analgesic utilization * Nausea * Vomiting * Headache * Somnolence * Dizziness * Visual disturbances | 24h |
|  | Placebo (n = 24) | |  |  | 0 | Same | - | - |  |  |  |
| Matsutani *et al.*  (2015)212 | 68 | Pregabalin (n = 34) | | Thoracotomy | | Regional ou general anesthesia |  | 75 | 2h before surgery / 12h after surgery | 150 | 14 |  | No | * Postoperative pain * Additional analgesic drug requirement * Neuropathic pain * Sleep interference * Adverse effects | 12w |
|  | Loxoprofen (n = 34) | |  |  | 60 | 2h before surgery / 8h after surgery | 180 | 14 |  |  |  |
| Memari *et al.*  (2015)213 | 200 | Gabapentin (n = 100) | | Caesarean section | | Regional anesthesia |  | 600 | 1h before surgery | - | - |  | Not mentioned | * Postoperative nausea or vomiting | 4h |
|  | Placebo (n = 100) | |  |  | 0 | Same | - | - |  |  |  |
| Monks *et al.*  (2015)214 | 204 | Gabapentin (n = 100) | | Caesarean delivery | | Regional anesthesia |  | 300 | 1h before surgery / 8h after surgery | 600 | 2 |  | No | * Postoperative pain at rest and on movement * Satisfaction score * Opioid use * Sedation * Postoperative nausea or vomiting * Dizziness * Pruritus * Difficulties balancing * Neonatal Apgar score * Breastfeeding issues * Neonatal ICU admission * Anxiety level | 6w |
|  | Placebo (n = 97) | |  |  | 0 | Same | 0 | 2 |  |  |  |
| Ommid *et al.*  (2015)215 | 40 | Pregabalin (n = 20) | | Lower abdominal surgeries | | General anesthesia |  | 300 | 1h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization * Adverse effects | 24h |
|  | Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
| Park *et al.*  (2015)216 | 50 | Pregabalin (n = 23) | | Tonsillectomy | | General anesthesia |  | 300 | Night before+1h before surgery | - | - |  | No | * Patient-controlled fentanyl utilization * Number of ketorolac injections * Postoperative pain at rest * Swallowing * Satisfaction score * Side effects | 8d |
|  | Diazepam (n = 25) | |  |  | 4 | Same | - | - |  |  |  |
| Paul *et al.*  (2015)217 | 102 | Gabapentin (n = 48) | | Primary total joint arthroplasty in a single hip | | Regional anesthesia |  | 600 | 2h before surgery / 6 PM after surgery | 600 | 2 |  | No | * Morphine utilization * Postoperative pain * Side-effects * Patient satisfaction * Range of motion * Lenght of stay * Hemodynamic/respiratory parameters | 72h |
|  | Placebo (n = 54) | |  |  | 0 | Same | 0 | 2 |  |  |  |
| Ray *et al.*  (2015)218 | 60 | Gabapentin (n = 30) | | Abdominal hysterectomy | | Regional anesthesia |  | 300 | 2h before surgery | - | - |  | No | * Postoperative pain * Analgesic utilization * Postoperative nausea or vomiting | 48h |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Valadan *et al.*  (2015)219 | 40 | Gabapentin (n = 20) | | Ovarian laparoscopic cystectomy | | General anesthesia |  | 600 | 0.5h before surgery | - | - |  | No | * Post laparoscopic shoulder pain | 24h |
|  | Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
| Wei *et al.*  (2015)220 | 52 | Pregabalin (n = 26) | | Oculofacial plastic surgery - Eyelid surgery | | Monitored anesthesia care |  | 150 | 0.25-1h before surgery | - | - |  | No | * Postoperative pain * Acetaminophen utilization * Side effects | 48h |
|  | Placebo (n = 23) | |  |  | 0 | Same | - | - |  |  |  |
| YaDeau *et al.*  (2015)221 | 120 | Pregabalin 150 (n = 28) | | Total knee arthroplasty | | Regional anesthesia |  | 300 | 0.5h before surgery / 12h after surgery | 300 (day 1-14)/ 150 (day 15-16) | 16 |  | Yes | * Postoperative pain (2 weeks and acute) * Opioid-related distress score * Sedation * Confusion * Chronic pain (3 months) * Neuropathic pain * Opioid usage * Satisfaction | 3mo |
|  | Pregabalin 100 (n = 29) | |  |  | 200 | Same | 200 (day 1-14)/ 100 (day 15-16) | 16 |  |  |  |
|  | Pregabalin 50 (n = 26) | |  |  | 100 | Same | 100 (day 1-14)/ 50 (day 15-16) | 16 |  |  |  |
|  | Placebo (n = 28) | |  |  | 0 | Same | 2Pl(day 1-14)/ 1Pl (day 15-16) | 16 |  |  |  |
| Ziyaeifard *et al.*  (2015)222 | 60 | Pregabalin (n = 30) | | Coronary artery bypass surgery | | General anesthesia |  | 150 | 2h before surgery | - | - |  | No | * Heart rates * Blood pressure * Respiratory rate * Intensive care unit (ICU) stay duration * Morphine utilization * Postoperative pain | 24h |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Ahiskalioglu *et al.*  (2016)223 | 60 | Pregabalin (n = 30) | | Inguinal hernia repair with mesh | | Regional anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Fentanyl utilization (24h) * Postoperative pain * Chronic pain | 24h |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Ahiskalioglu *et al.*  (2016)224 | 47 | Pregabalin (n = 20) | | Double jaw surgery | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Fentanyl utilization * Postoperative pain * Adverse effects | 24h |
|  | Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
| Ahn *et al.*  (2016)225 | 60 | Pregabalin (n = 30) | | Arthroscopic shoulder surgery | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Opioid sparing effect (48h) * Postoperative pain * Number of rescue analgesic drugs administered * Side effects * Incidence of nausea | 48h |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Akhan *et al.*  (2016)226 | 80 | Gabapentin (n = 20) | | Inguinal hernia and sinus pilonidal | | Regional anesthesia |  | 1200 | 1h before surgery | - | - |  | No | * Pruritus * Adverse effects | 24h |
|  | Mirtazapine (n = 20) | |  |  | 30 | Same | - | - |  |  |  |
|  | Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
|  | Ondansetron (n = 20) | |  |  | 8 | Same | - | - |  |  |  |
| Benton *et al.*  (2016)227 | 109 | Gabapentin (n = 54) | | Laparoscopy for benign gynecologic | | General anesthesia |  | 300 | before surgery | - | - |  | No | * Postoperative pain | 7d |
|  | Placebo (n = 54) | |  |  | 0 | Same | - | - |  |  |  |
| Bhatia *et al.*  (2016)228 | 50 | Gabapentin (n = 25) | | Abdominal hysterectomy | | Regional anesthesia |  | 600 | 2h before surgery | - | - |  | No | * Postoperative pain * Analgesic requirement * Side effects | 24h |
|  | Placebo (n = 25) | |  |  | 0 | Same | - | - |  |  |  |
| Cegin *et al.*  (2016)229 | 80 | Pregabalin 300 (n = 20) | | Upper extremity bone surgery | | Regional anesthesia |  | 300 | 1h before surgery | - | - |  | Yes | * Postoperative pain * Vitals signs * Sedation * Satisfaction * Termination of sensorial * Motor block | 1h |
|  | Pregabalin 150 (n = 20) | |  |  | 150 | Same | - | - |  |  |  |
|  | Pregabalin 75 (n = 20) | |  |  | 75 | Same | - | - |  |  |  |
|  | Placebo (n = 20) | |  |  | 0 | Same | - | - |  |  |  |
| Damshenas *et al.*  (2016)230 | 34 | Pregabalin (n = 20) | | Ortho lower limb surgery | | Regional anesthesia |  | 150 | 2h before surgery | - | - |  | Not mentioned | * Postoperative pain * Haemodynamic parameters | 10h |
|  | Placebo (n = 14) | |  |  | 0 | Same | - | - |  |  |  |
| El Kenany *et al.*  (2016)231 | 135 | Pregabalin 300 (n = 45) | | Caesarean delivery | | Regional anesthesia |  | 300 | 1h before surgery | - | - |  | No | * Morphine utilization * Postoperative pain * APGAR score * Neurologic scores * Sedation * Postoperative nausea or vomiting | 48h |
|  | Pregabalin 150 (n = 45) | |  |  | 150 | Same | - | - |  |  |  |
|  | Placebo (n = 45) | |  |  | 0 | Same | - | - |  |  |  |
| Fujita *et al.*  (2016)232 | 97 | Pregabalin 150 (n = 30) | | Posterior lumbar interbody fusion (PLIF) surgery | | General anesthesia |  | 150 | 2h before surgery | - | - |  | No | * Postoperative pain * Morphine utilization | 48h |
|  | Pregabalin 75 (n = 30) | |  |  | 75 | Same | - | - |  |  |  |
|  | Diazepam (n = 29) | |  |  | 5 | Same | - | - |  |  |  |
| Gautam *et al.*  (2016)233 | 90 | Gabapentin (n = 30) | | Multiple | | General anesthesia |  | 600 | 1.5h before surgery | - | - |  | No | * Postoperative pain * Tramadol utilization * Adverse effects | 8h |
|  | Pregabalin (n = 30) | |  |  | 300 | Same | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Hetta *et al.*  (2016)234 | 120 | Pregabalin 300 (n = 26) | | Modified radical mastectomy | | General anesthesia |  | 300 | 2h before surgery | - | - |  | No | * Postoperative pain * 24-hour postoperative morphine utilization * Incidence and severity of pregabalin-related adverse effects | 24h |
|  | Pregabalin 150 (n = 27) | |  |  | 150 | Same | - | - |  |  |  |
|  | Pregabalin 75 (n = 28) | |  |  | 75 | Same | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Kapse *et al.*  (2016)235 | 60 | Gabapentin (n = 30) | | Not mentioned | | General anesthesia |  | 800 | 1.5h before surgery | - | - |  | Not mentioned | * Sedation * Heart rate * Blood pressure | 30 min |
|  | Clonidine (n = 30) | |  |  | 5 mcg/kg | Same | - | - |  |  |  |
| Khan *et al.*  (2016)236 | 50 | Gabapentin (n = 25) | | Laparoscopic sleeve gastrectomy | | General anesthesia |  | 1200 | 2h before surgery | - | - |  | No | * Postoperative pain * Morphine requirement | 24h |
|  | Placebo (n = 25) | |  |  | 0 | Same | - | - |  |  |  |
| Khetarpal *et al.*  (2016)237 | 90 | Gabapentin (n = 30) | | Lower limb orthopedic surgery | | Regional anesthesia |  | 1200 | 1.5h before surgery | - | - |  | Yes | * Postoperative pain * Time and quantity of epidural top-up * Diclofenac utilization * Sedation * Dizziness * Postoperative nausea or vomiting * Somnolence * Diarrhea * Gastrointestinal disturbances | 24h |
|  | Pregabalin (n = 30) | |  |  | 300 | Same | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Konstantatos *et al.*  (2016)238 | 100 | Pregabalin (n = 52) | | Video-assisted thoracoscopic surgery | | General anesthesia |  | 300 | 0.5h before surgery | - | - |  | No | * Postoperative pain * Sedation * Postoperative nausea or vomiting * Chronic pain | 9mo |
|  | Placebo (n = 48) | |  |  | 0 | Same | - | - |  |  |  |
| Mardani-Kivi *et al.*  (2016)239 | 76 | Gabapentin (n = 37) | | Arthroscopic Bankart surgery | | General anesthesia |  | 600 | 2h before surgery | - | - |  | No | * Postoperative pain * Pethidine utilization * Nausea * Vomiting * Dizziness * Sedation | 24h |
|  | Placebo (n = 34) | |  |  | 0 | Same | - | - |  |  |  |
| Mishra *et al.*  (2016)240 | 90 | Pregabalin (n = 30) | | Laparoscopic cholecystectomy | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Postoperative pain * Tramadol utilization * Sedation * Postoperative nausea or vomiting * Respiratory depression * Headache * Dizziness * Visual disturbances * Somnolence | 24h |
|  | Gabapentin (n = 30) | |  |  | 900 | Same | - | - |  |  |  |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Miyazaki *et al.*  (2016)241 | 72 | Pregabalin (n = 33) | | Surgery for NSMLC | | General anesthesia |  |  | Not mentioned | 150 | Not mentioned |  | Yes | * Additional usage of NSAID * Postoperative pain * Frequency of neuropathic pain | 3mo |
|  | Placebo (n = 34) | |  |  |  | Not mentioned | 0 | Not mentioned |  |  |  |
| Mohamed *et al.*  (2016)242 | 60 | Pregabalin300 (n = 15) | | Radical cystectomy | | General anesthesia |  | 300 | 2h before surgery | 0 | 0 |  | No | * Analgesic utilization * Postoperative pain * Time to first request rescue analgesia and * Adverse effects | 24h |
|  | Pregabalin300b (n = 15) | |  |  | 300 | 2h before surgery+ 12 after fisrt dose | 300 | 0 |  |  |  |
|  | Pregabalin600 (n = 15) | |  |  | 600 | 2h before surgery | 0 | 0 |  |  |  |
|  | Placebo (n = 15) | |  |  | 0 | 2h before surgery | 0 | 0 |  |  |  |
| Nikhil *et al.*  (2016)243 | 60 | Gabapentin (n = 30) | | Surgical procedures in the anterior part of the neck | | General anesthesia |  | 300 | 2h before surgery | - | - |  | No | * Postoperative pain * Opioid requirement * Change in heart rate * Blood pressure * Postoperative nausea or vomiting | 24h |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Olmedo-Gaya *et al.*  (2016)244 | 60 | Pregabalin (n = 30) | | Surgical extraction of impacted lower third molar | | Monitored anesthesia care |  | 75 | 1h before surgery / 1h after surgery | 75 | 0 |  | No | * Tooth-related measurement * Postoperative pain * Ibuprofen utilization * Nausea * Vomiting * Drowsiness * Motion sickness * Tremors * Sweating * Dyspepsia * Diarrhea * Bleeding * Dizziness * Disorientation | 24h |
|  | Placebo (n = 30) | |  |  | 0 | Same | 0 | 0 |  |  |  |
| Park *et al.*  (2016)245 | 44 | Pregabalin (n = 21) | | Transurethral resection of the bladder (TUR-B) or transurethral resection of the prostate (TUR-P) | | Regional anesthesia |  | 150 | 2h before surgery | - | - |  | No | * Motor block duration * Postoperative pain * Opioid utilization * Drowsiness * Dizziness * Dry mouth * Postoperative nausea or vomiting | 24h |
|  | Placebo (n = 22) | |  |  | 0 | Same | - | - |  |  |  |
| Parveen *et al.*  (2016)246 | 80 | Pregabalin (n = 40) | | Laparoscopic cholecystectomy | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Blood pressure * HR * Level of sedation * Postoperative pain * Postoperative nausea or vomiting * Bradycardia * Hypotension * Side effects | 24h |
|  | Clonidine (n = 40) | |  |  | 0.3 | Same | - | - |  |  |  |
| Pourfakhr *et al.*  (2016)247 | 75 | Gabapentin (n = 25) | | Orthognathic surgeries | | General anesthesia |  | 600 | 30 min before surgery | - | - |  | No | * Postoperative pain * Agitation * Morphine requirement * Postoperative nausea or vomiting | 24h |
|  | Ketoralac (n = 25) | |  |  | 0 | Same | - | - |  |  |  |
|  | Placebo (n = 25) | |  |  | 0 | Same | - | - |  |  |  |
| Rajappa *et al.*  (2016)248 | 135 | Pregabalin 150 (n = 45) | | Vaginal hysterectomy | | Regional anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Postoperative pain * Rescue analgesics * Sleep quality * Block optimization * Side effects | 24h |
|  | Pregabalin 75 (n = 45) | |  |  | 75 | Same | - | - |  |  |  |
|  | Placebo (n = 45) | |  |  | 0 | Same | - | - |  |  |  |
| Sadatsune *et al.*  (2016)249 | 40 | Gabapentin (n = 18) | | Open carpal tunnel release surgery | | Regional anesthesia |  | 600 | 1h before surgery | - | - |  | No | * Postoperative pain * Preoperative and chronic pain * Lidocaine utilization * Midazolam utilization * Paracetamol and/or codeine utilization * Development of neuropathic pain and/or complex regional pain syndrome | 6mo |
|  | Placebo (n = 19) | |  |  | 0 | Same | - | - |  |  |  |
| Saxena *et al.*  (2016)250 | 90 | Pregabalin 150 (n = 30) | | Laparoscopic cholecystectomy | | General anesthesia |  | 225 | At bedtime+1h before surgery | - | - |  | Not mentioned | * Sedation * Haemodynamic parameters * Side effects | Not mentioned |
| 90 | Pregabalin 300 (n = 30) | |  |  | 375 | Same | - | - |  |  |  |
| 90 | Diazepam (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Sebastian *et al.*  (2016)251 | 90 | Pregabalin (n = 45) | | Lower limb orthopedic surgeries | | Regional anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Time for regression of block * Time to rescue analgesic * Total dose of diclofenac * Side effects | 24h |
|  | Placebo (n = 45) | |  |  | 0 | Same | - | - |  |  |  |
| Shimony *et al.*  (2016)252 | 100 | Pregabalin (n = 50) | | Infra- or supratentorial brain tumor/mass resection | | General anesthesia |  | 300 | night before surgery+1.5h before surgery / 2h after surgery | 300 | 3 |  | No | * Postoperative pain * Lenght of stay * Opioid utilization * 30-day complication * Re-surgery | 3mo |
|  | Placebo (n = 50) | |  |  | 0 | Same | 0 | 3 |  |  |  |
| Thananun *et al.*  (2016)253 | 80 | Gabapentin (n = 40) | | Orthopedic surgery | | Regional anesthesia |  | 600 | before surgery | - | - |  | No | * Postoperative nausea or vomiting | 24h |
|  | Placebo (n = 40) | |  |  | 0 | before surgery | - | - |  |  |  |
| Vasigh *et al.*  (2016)254 | 114 | Gabapentin (n = 38) | | Laminectomy | | General anesthesia |  | 600 | 2h before surgery / 6h after surgery | 300 | 1 |  | No | * Postoperative pain * Morphine utilization * Anxiety * Satisfaction * Side effects | 24h |
|  | Celecoxib (n = 38) | |  |  | 400 | Same | 200 | 1 |  |  |  |
|  | Placebo (n = 38) | |  |  | 0 | Same | 0 | 1 |  |  |  |
| Zarei *et al.*  (2016)255 | 105 | Pregabalin 14 days (n = 35) | | bilateral foramenotomy and interlaminar discectomy | | General anesthesia |  | 300 | 8h before surgery / 12h after surgery | 300 | 14 |  | No | * Postoperative pain * Radiculopathy * Treatment side effects (2 weeks post-operation) * Low back pain | 12mo |
|  | Pregabalin 1 day (n = 35) | |  |  | 300 | Same | 300 | 1 |  |  |  |
|  | Placebo (n = 35) | |  |  | 0 | Same | 0 | 14 |  |  |  |
| Anand *et al.*  (2017)256 | 60 | Pregabalin (n = 30) | | Laparoscopic cholecystectomy | | General anesthesia |  | 150 | 2h before surgery | - | - |  | No | * Postoperative pain * Analgesic utilization * Adverse effects | 24h |
|  | Alprazolam (n = 30) | |  |  | 0.5 | Same | - | - |  |  |  |
| Asgari *et al.*  (2017)257 | 96 | Pregabalin75 (n = 20) | | Laparoscopic hysterectomy | | General anesthesia |  | 150 | night + 30 mins before surgery + 6h after surgery | 75 | 1 |  | No | * Postoperative pain * Surgical time * Blood loss * Adverse effects | 24h |
|  | Pregabalin 150 (n = 20) | |  |  | 300 | Same | 150 | 1 |  |  |  |
|  | Pregabalin 300 (n = 20) | |  |  | 600 | Same | 300 | 1 |  |  |  |
|  | Placebo (n = 22) | |  |  | 0 | Same | 0 | 1 |  |  |  |
| Bhosale *et al.*  (2017)258 | 90 | Gabapentin (n = 30) | | Orthopedic / Obstetrics-Gynecology and surgery | | Regional anesthesia |  | 300 | 0.5h before surgery | - | - |  | No | * Postoperative pain * Analgesic utilization * Postoperative nausea or vomiting | 24h |
|  | Tobsramate (n = 30) | |  |  | 200 | Same | - | - |  |  |  |
|  | Lamotrigine (n = 30) | |  |  | 100 | Same | - | - |  |  |  |
| Borde *et al.*  (2017)259 | 80 | Pregabalin (n = 37) | | CABG | | General anesthesia |  | 150 | 1h before surgery / after extubation | 150 | 2 |  | No | * Quality of recovery score (QoR-40) * Hemodynamic * Side effects | 48h |
|  | Placebo (n = 34) | |  |  | 0 | Same | 0 | 2 |  |  |  |
| Bouzia *et al.*  (2017)260 | 102 | Pregabalin75 (n = 31) | | Primary cardiac surgery with median sternotomy and extracorporeal circulation | | General anesthesia |  | 75 | Not mentioned | - | - |  | No | * Postoperative pain * Opioid utilization * Chronic pain * Postoperative nausea or vomiting | 3mo |
|  | Pregabalin150 (n = 31) | |  |  | 150 | Not mentioned | - | - |  |  |  |
|  | Placebo (n = 31) | |  |  | 0 | Not mentioned | - | - |  |  |  |
| Eidy *et al.*  (2017)261 | 108 | Gabapentin (n = 36) | | Laparoscopic cholecystectomy | | General anesthesia |  | 800 | 1h before surgery | - | - |  | No | * Opioid utilization * Number of nausea and vomiting * Postoperative pain | 24h |
|  | Pregabalin (n = 36) | |  |  | 150 | Same | - | - |  |  |  |
|  | Placebo (n = 36) | |  |  | 0 | Same | - | - |  |  |  |
| Gupta *et al.*  (2017)262 | 90 | Pregabalin 150 (n = 30) | | Laparoscopic cholecystectomy | | General anesthesia |  | 225 | At bedtime+1h before surgery | - | - |  | No | * Anesthetic utilization * Frequency of rescue analgesia * Dizziness | 8h |
|  | Pregabalin 300 (n = 30) | |  |  | 375 | Same | - | - |  |  |  |
|  | Diazepam (n = 30) | |  |  | 15 | Same | - | - |  |  |  |
| Hafez *et al.*  (2017)263 | 45 | Gabapentin 600 (n = 15) | | Caesarean | | Regional anesthesia |  | 600 | 1h before surgery | - | - |  | No | * Postoperative pain * Frequency of pethidine administration * Side effects | 24h |
|  | Gabapentin 900 (n = 15) | |  |  | 900 | Same | - | - |  |  |  |
|  | Placebo (n = 15) | |  |  | 0 | Same | - | - |  |  |  |
| Hah *et al.*  (2017)264 | 422 | Gabapentin (n = 208) | | Mixed surgical cohort | | Not mentioned |  | 1200 | preoperation + postoperation | 1800 | 3 |  | No | * Pain resolution * Opioid cessation * Proportion of patients with continued pain or opioid at 6 months and 1 year * Adverse effects | 2y |
|  | Lorazepam (n = 202) | |  |  | 0.5 | Same | 1 | 3 |  |  |  |
| Khalili *et al.*  (2017)265 | 96 | Gabapentin (n = 32) | | Tibial fracture | | General anesthesia |  | 300 | 1.5h before surgery | - | - |  | No | * Postoperative pain * Pethidine requirement * Adverse effects | 6h |
|  | Paracetamol (n = 32) | |  |  | 1000 | Same | - | - |  |  |  |
|  | Placebo (n = 32) | |  |  | 0 | Same | - | - |  |  |  |
| Khan *et al.*  (2017)266 | 140 | Gabapentin (n = 70) | | Gynecological laparoscopy | | General anesthesia |  | 600 | 2h before surgery | - | - |  | No | * Postoperative nausea or vomiting * Time for rescue analgesia | 24h |
|  | Placebo (n = 70) | |  |  | 0 | Same | - | - |  |  |  |
| Kiatchai *et al.*  (2017)267 | 125 | Pregabalin (n = 61) | | Abdominal hysterectomy with or without salpingo-oophorectomy | | Regional anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Morphine utilization * Time to first rescue analgesic * Postoperative pain * Adverse effects * Satisfaction | 24h |
|  | Placebo (n = 58) | |  |  | 0 | Same | - | - |  |  |  |
| Kim *et al.*  (2017)268 | 60 | Pregabalin (n = 30) | | Video-assisted thoracoscopic surgery | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Postoperative pain * Analgesic utilization * Adverse effects | 48h |
|  | Placebo (n = 30) | |  |  | 0 | Same | - | - |  |  |  |
| Kochhar *et al.*  (2017)269 | 50 | Pregabalin (n = 25) | | Myringoplasty septoplasty | | Monitored anesthesia care |  | 150 | 1h before surgery | - | - |  | No | * Propofol requirement * Analgesic consumption * Postoperative pain * Adverse effects | 24h |
|  | Placebo (n = 25) | |  |  | 0 | Same | - | - |  |  |  |
| Leung *et al.*  (2017)270 | 750 | Gabapentin (n = 350) | | Spine surgery or joint replacement surgery | | General anesthesia or Regional anesthesia |  | 900 | 1-2h before surgery/Not mentioned | 900 | 3 |  | Yes | * Delirium * Postoperative pain * Opioid sparing effect * Adverse effects | 72h |
|  | Placebo (n = 347) | |  |  | 0 | Same | 900 | 3 |  |  |  |
| Maghsoudi *et al.*  (2017)271 | 170 | Gabapentin (n = 50) | | Percutaneous nephrolithotomy | | General anesthesia |  | 600 | 1h before surgery | - | - |  | No | * Postoperative pain * Analgesic utilization * Vitals sign | 24h |
|  | Tolterodine (n = 50) | |  |  | 2 | Same | - | - |  |  |  |
|  | Placebo (n = 70) | |  |  | 0 | Same | - | - |  |  |  |
| Manorema *et al.*  (2017)272 | 75 | Pregabalin (n = 25) | | Lumbar decompressive laminectomy | | General anesthesia |  | 150 | 1h before surgery | - | - |  | No | * Analgesic and anxiolytic efficacy * Adverse effects | 6h |
|  | Tramadol (n = 25) | |  |  | 100 | Same | - | - |  |  |  |
|  | Placebo (n = 25) | |  |  | 0 | Same | - | - |  |  |  |
| Myhre *et al.*  (2017)273 | 80 | Pregabalin (n = 39) | | Laparoscopic nephrectomy | | General anesthesia |  | 75 | 1h before surgery | - | - |  | No | * Opioid utilization * Postoperative pain * Adverse effect | 12mo |
|  | Placebo (n = 40) | |  |  | 0 | Same | - | - |  |  |  |
| Rezaeian  (2017)274 | 70 | Pregabalin (n = 35) | | Functional endoscopic sinus surgery | | General anesthesia |  | 0 | after surgery | 150 | 3 |  | Not mentioned | * Postoperative pain * Adverse effects | 72h |
|  | Acetaminophen  n = 35) | |  |  | 0 | Same | 2000 | 3 |  |  |  |
| Rupniewska-Ladyko *et al.*  (2017)275 | 113 | Gabapentin (n = 57) | | Laparoscopic sleeve gastrectomy | | General anesthesia |  | 1200 | 1h before surgery | - | - |  | No | * Duration before first analgesic requirement * Cumulative oxycodone | 12h |
|  | Placebo (n = 56) | |  |  | 0 | Same | - | - |  |  |  |
| Samal *et al.*  (2017)276 | 60 | Pregabalin (n = 30) | | Multiple | | General anesthesia |  | 150 | 1h before surgery | - | - |  | Not mentioned | * Hemodyn stability after laryngoscopy * Adverse effects | 30mins |
|  | Dexmedetomidine (n = 30) | |  |  | 0.001/kg | 10 min before surgery | - | - |  |  |  |
| Sanders *et al.*  (2017)277 | 73 | Gabapentin (n = 27) | | Tonsillectomy | | General anesthesia |  | 600 | 1-2h before surgery | - | - |  | No | * Postoperative pain * Analgesic utilization * Postoperative nausea or vomiting * Return to normal diet and activities * Adverse effects | 14d |
|  | Placebo (n = 31) | |  |  | 0 | Same | - | - |  |  |  |
| Sanie *et al.*  (2017)278 | 45 | Pregabalin (n = 15) | | Lithotripsy | | General anesthesia |  | 150 | 2h before surgery | - | - |  | Not mentioned | * Postoperative pain | 1h |
|  | Melatonin (n = 15) | |  |  | 3 | Same | - | - |  |  |  |
|  | Placebo (n = 15) | |  |  | 0 | Same | - | - |  |  |  |
| Abdelfattah *et al.*  (2018)279 | 70 | Pregabalin (n = 35) | | Radiofrequency ablation of focal lesions in the liver | | Monitored anesthesia care |  | 150 | 1h before surgery | - | - |  | No | * Postoperative pain * Rescue analgesia * Postoperative nausea or vomiting | 24h |
|  | Placebo (n = 35) | |  |  | 0 | Same | - | - |  |  |  |
|  |  |  | |  | |  |  |  |  |  |  |  |  |  |  |

CABG Coronary artery bypass graft ; postanesthesia care unit; ICU intensive care unit; HD hemodynamic; ; h hours; mo months; d day; mg milligram

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