Ibuprofen

Nonsteroidal anti-inflammatory drug

- Optimal Analgesic Volume for Popliteal Plexus Block After Total Knee Arthroplasty: A Blinded RCT Protocol
- Does Ultrasound-Guided Quadratus Lumborum Block Improve Pain after Hysterectomy
- The potential role of RhoA/ROCK-inhibition on locomotor recovery after spinal cord injury: a systematic review of in-vivo studies
- Comparison of postoperative analgesic efficacy between erector spinae plane block and rhomboid intercostal block in breast-conserving surgery and sentinel lymph node biopsy: A randomized non-inferiority clinical trial
- The efficacy of transversalis fascia plane block in pediatric inguinal herniotomy: a randomized controlled study
- Postoperative analgesic effect of lumbar erector spinae plane block for developmental hip dysplasia surgery: a randomized controlled double-blind study
- Effectiveness of Lignocaine with and without Pre-operative Oral Ibuprofen in Controlling Pain in Primary Mandibular Molars with Irreversible Pulpitis in 5 to 9-Year-Old Children: A Randomized Controlled Trial
- Prolonged opioid use after single-level lumbar spinal fusion surgery in a Belgian population: a multicentric observational study

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Theken et al., performed pain phenotyping, functional neuroimaging, pharmacokinetic/pharmacodynamic assessments, inflammation biomarkers, and gene expression profiling in healthy subjects who underwent surgical extraction of bony impacted third molars and were treated with ibuprofen (400 mg; N=19) or placebo (N=10). Analgesic efficacy was not associated with demographic or clinical characteristics, ibuprofen pharmacokinetics, or the degree of cyclooxygenase inhibition by ibuprofen. Compared to partial responders to ibuprofen (N=9, required rescue medication within the dosing interval), complete responders (N=10, no rescue medication) exhibited greater induction of urinary prostaglandin metabolites and serum tumor necrosis factor-α and interleukin-8. Differentially expressed genes in peripheral blood mononuclear cells were enriched for inflammation-related pathways. These findings suggest that a less pronounced activation of the inflammatory prostanoid system is associated with insufficient pain relief on ibuprofen alone and the need for additional therapeutic intervention [1].

Compared to ibuprofen monotherapy, combination of ibuprofen and paracetamol may provide faster and longer analgesia in patients with acute low back pain, with equally favorable effect on mobility and functional ability and similar tolerability [2].

In a matched cohort study of trauma patients, pre injury Ibuprofen use was not associated with progression of initial intracranial hemorrhage and the need for neurosurgical intervention. Preinjury use of Ibuprofen as an independent variable should not warrant the need for a routine repeat head computed tomography (RHCT) scan [3].

1)
Theken KN, Hersh EV, Lahens NF, Lee HM, Li X, Granquist EJ, Giannakopoulos H, Levin LM, Secreto SA, Grant GR, Detre JA, FitzGerald GA, Grosser T, Farrar JT. Variability in the Analgesic Response to Ibuprofen is Associated with Cyclooxygenase Activation in Inflammatory Pain. Clin Pharmacol Ther. 2019 Mar 31. doi: 10.1002/cpt.1446. [Epub ahead of print] PubMed PMID: 30929268.
2)
Ostojic P, Radunovic G, Lazovic M, Tomanovic-Vujadinovic S. Ibuprofen plus paracetamol versus ibuprofen in acute low back pain: a randomized open label multicenter clinical study. Acta Reumatol Port. 2017 Jan-Mar;42(1):18-25. PubMed PMID: 27978532.
3)
Zangbar B, Pandit V, Rhee P, Khalil M, Kulvatunyou N, O'Keeffe T, Tang A, Gries L, Green DJ, Friese RS, Joseph B. Clinical outcomes in patients on preinjury ibuprofen with traumatic brain injury. Am J Surg. 2014 Aug 1. pii: S0002-9610(14)00366-3. doi: 10.1016/j.amjsurg.2014.05.027. [Epub ahead of print] PubMed PMID: 25190545.