

Efficacy of Preemptive Ibuprofen Combined with Paracetamol in Lower Third Molar Surgery: A Double-blind Randomized Controlled Clinical Trial

Pichai Vittayakittipong¹, Thippapa Areewattana²

¹Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Prince of Songkla University, Thailand

²Sathing Phra Hospital, Thailand

Received: October 11, 2021 • Revised: January 4, 2022 • Accepted: January 19, 2021

Corresponding Author: **Associate Professor Pichai Vittayakittipong**, Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Prince of Songkla University, Songkhla 90110, Thailand. (E-mail: pichai.v@hotmail.com)

Abstract

Objectives: The aim of this study was to assess the preemptive analgesic efficacy of ibuprofen 400 mg combined with paracetamol 500 mg after lower third molar surgery.

Methods: A randomized double-blinded controlled clinical trial was conducted. Patients were randomized into the preemptive group (ibuprofen 400 mg combined with paracetamol 500 mg) and the control group (placebo) using block randomization. Preemptive drugs and the placebo were administered to patients orally 1 hour before undergoing lower third molar surgery. The following outcomes were assessed: postoperative pain assessed with visual analog scale (VAS), number of patients who received rescue medications, number of pain-free patients, time at first requirement for rescue medications, number of patients who received rescue medications, and drug satisfaction.

Results: The 48 patients were randomized, 24 to the control group and 24 to the preemptive group. The time until first requirement for rescue medications in the preemptive group was significantly longer than that of the control group ($p=0.003$). The other outcomes were not significantly different between groups.

Conclusions: Preemptive ibuprofen 400 mg combined with paracetamol 500 mg did not reduce postoperative pain after lower third molar surgery; however, the preemptive therapy delayed the time required for rescue medications.

Keywords: ibuprofen, lower third molar surgery, paracetamol, preemptive analgesic

Introduction

Lower third molar surgery is a common invasive dental procedure in the outpatient setting. It is often accompanied by moderate to severe pain, facial swelling, and limited mouth opening postoperatively. Postoperative pain increases the patient's discomfort and anxiety, and can also disrupt the homeostasis of the circulatory and endocrine systems. The management of postoperative pain after the removal of a tooth is therefore very important.^(1,2) Surgical removal of an impacted mandibular third molar causes pain and has been used as an excellent

clinical model for pain studies.⁽³⁾ It is well documented that the pain after removal of an impacted third molar has a short duration and reaches a maximum intensity in the early postoperative period. Seymour *et al.*⁽⁴⁾ found that pain usually occurred during the first 12 hours after third molar surgery. The maximum pain level presents 6-8 hours postoperatively under local anesthesia.^(3,5)

Oral analgesics such as paracetamol, nonsteroidal anti-inflammatory drugs (NSAIDs) including cyclooxygenase (COX)-2-selective inhibitors, and opioids are available for the treatment of acute pain, with a combi-