Naproxen Versus Ibuprofen in Pain Control after Periodontal Surgery: a Randomized Crossover Double-blind Clinical Trial

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Abstract: Objective: The purpose of this study was to compare analgesic efficacy of two none-steroidal anti-inflammatory drugs (NSAIDS), ibuprofen and naproxen in the management of postoperative pain and swelling after periodontal surgery. Design: this study used a double-blind cross-over design with the patients acting as their own controls. Methods: Thirty patients (18 females and 12 males) underwent two periodontal surgeries in bilateral mandibular quadrants one month apart. They did not need bone correction or tooth extraction or any other surgical manipulation. In 15 patients ibuprofen was administered after their first surgery and in 15 patients naproxen was given in the first 24 hour after surgery. The drugs were cross changed in the second schedule. The perceived pain was recorded using a visual analogue scale by a self reported pain diary. VAS value after 1st, 2nd, 6th and 24th hours after surgery was recorded. T-test was used for statistical analysis. Results: Mean age of patients was 32.1 ±5.83 [M:34.5± 6.23,F:30.5±5.12,range 19 to 54 years old]. After one hour, mean VAS(MVS) was less in ibuprofen regimen. (MVS =3.63 vs 3.83) After two hours both groups experienced almost similar pain values (MVS =2.85 vs 2.83), After 6 hours VAS was significantly lower in naproxen group (p=0.013) (MVS = 1.23 vs 2.69). The same result was acquired in 24th post operative hour. Patients in naproxen group (VAS=0.40) experienced less pain than ibuprofen group (VAS=1.48) (p=0.008). Conclusion: naproxen is more efficient in long term pain control (24 hours after periodontal surgery) (P<0.05) although ibuprofen was more effective in first hour after surgery due to short acting nature of this drug, this difference was not significant (P>0.05).

Key words: clinical trial, cross-over studies, double-blind, ibuprofen, postoperative, pain control, naproxen

INTRODUCTION

Postoperative pain management (POP) after surgery is one of the important factors in patient satisfaction and adherence to ongoing treatment phases. (Coulthard, 2008) Different drugs can be used in POP management. According to one study 70% of patients perceive some degree of pain following periodontal surgery (Curtis et al., 1985). The peak of pain experience is within first twenty-four hours after surgery and will decrease in subsequent days. (Seymour, 1983) Acetaminophen , none-steroid anti-inflammatory drugs (NSAIDS) and mild opioids such as codeine are used alone or in combination to avoid POP. Ibuprofen is one of accepted NSAIDS used for POP management after most oral surgical procedures. (Pearlman et al., 1997) it is a propionic acid derivative with a peak plasma level 1 to 2 hours after an oral dose with a half-life of 1.6 to 2.5 hours. (Vogel