

Necessity of Analgesics Prescription after Tooth Extraction

Sinan Tozoglu, Metin Gungormus, M. Cemil Buyukkurt, M. Selim Yavuz

Department of Oral and Maxillofacial Surgery, Ataturk University, Erzurum, Turkey

SUMMARY

Introduction For patients and surgeons, pain and discomfort associated with dento-alveolar surgery can be a frightening prospect. This study was aimed to check whether prescription of analgesics is necessary or not after simple extraction of the mandibular third molars.

Material and methods Seventy-six dental outpatients undergoing uncomplicated extraction of both mandibular third molars teeth served as subjects. After extraction on the first side, patients received either naproxen sodium 550 mg orally or a placebo. The order of the drugs was reversed during extraction on side two. The postoperative pain was scored with a six-point category rating scale. The obtained data were analysed with Mann-Whitney U-test.

Results The sum of the pain intensity for hours 2 through 8 was less for the group that received sodium naproxen. For hours 8-24, the sum of the pain intensity was less for the placebo group but this difference was not statistically different.

Conclusion This study shows that uncomplicated tooth extraction did not cause a significant postoperative pain and there was no need to prescribe analgesics for such cases.

Keywords: analgesics; tooth extractions; postoperative pain

INTRODUCTION

For patients and surgeons, pain and discomfort associated with dento-alveolar surgery can be a frightening prospect. Pain of an emergency nature is most likely to occur in dental practice as a result of infections, trauma, and temporomandibular joint or dental problems. Because one of the surgeons' main concerns is that a patient be made as comfortable as possible, in such cases, even after uncomplicated exodontia, analgesics and anti-inflammatory drugs are usually recommended to patients [1, 2, 3]. Patients also tend to take analgesics without a dentist's recommendation because of the expectation of pain. On the other hand, analgesics have some side effects and may cause unpleasant conditions, such as gastric upset, renal failure and hypersensitivity reactions [4, 5]. For this reason, it is important to know what to expect after surgery and assess whether a pain reliever is necessary or not to control post-operative pain.

The purpose of this study was to investigate whether the prescription of analgesics was necessary or not after uncomplicated extraction of the mandibular third molars.

MATERIAL AND METHODS

Seventy-six dental outpatients undergoing uncomplicated extraction of both mandibular third molars served as subjects. The extraction of teeth was required for orthodontic treatment. Only the patients with bilateral third molar teeth equally anticipated the degree of extraction difficulty on each side were included in the trial. There were 48 males and 28 females of an average age of 25.1 ± 4.5 years. Before enrollment, each patient consented to a

reviewed protocol and all procedures followed the tenets of the Declaration of Helsinki.

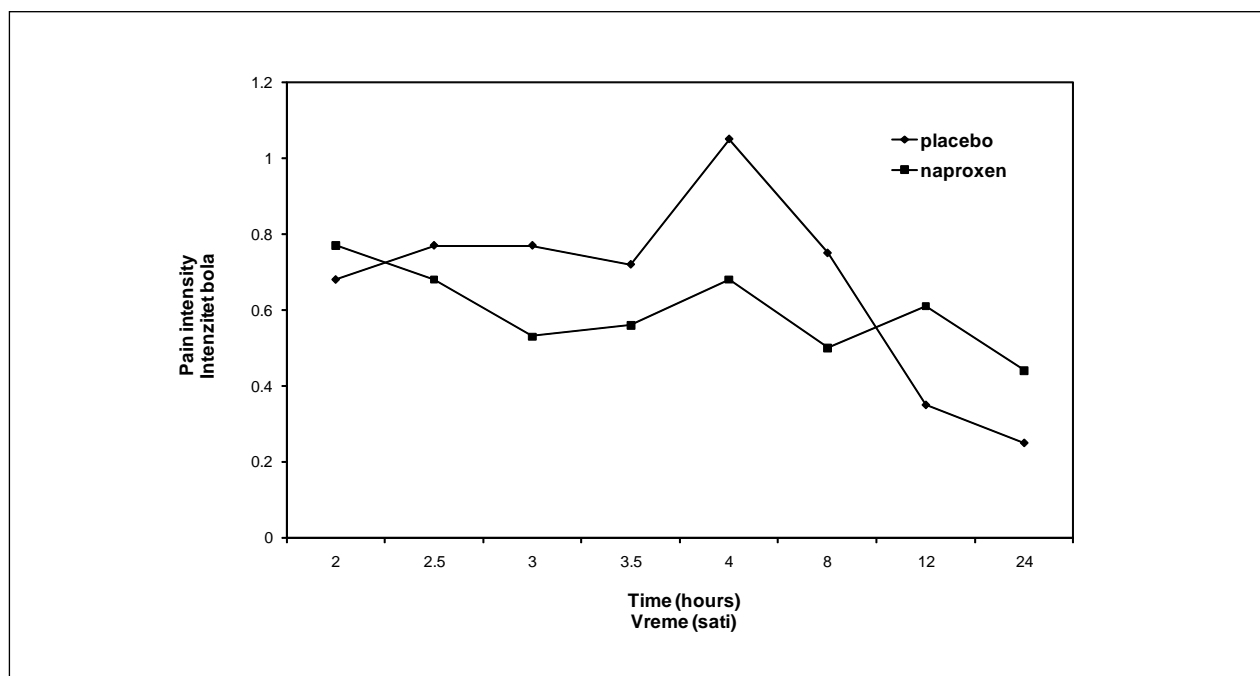
For the extraction on the first side, the patients received either naproxen sodium 550 mg orally or a placebo 2 hours after extraction. The order of the drugs was reversed during extraction on side two. The order of the extraction, right or left side and drug schedule were randomly selected. All extractions were performed in a standardized manner by the same surgeon using clinically accepted techniques with the same anaesthesia (Articaine 2.5% plus 1:100,000 epinephrine).

The patients who were pregnant or lactating, taking analgesics, tranquilizers or sedatives or they had history of hypersensitivity to naproxen sodium were not included in this study. The patients with the history of gastrointestinal bleeding, gastroenteritis or malabsorption syndromes which would have affected the absorption, metabolism or excretion of the drugs were also excluded from the study.

Pain was measured with a six-point category rating scale (1 – no pain; 2 – mild pain; 3 – moderate pain; 4 – severe pain; 5 – very severe pain; 6 – extremely severe pain) completed by the patients. The obtained data were analysed with Mann-Whitney U-test.

RESULTS

Category rating scale data are shown in the Graph 1. Seventy-six patients had data recorded postoperatively. No significant differences in pain intensity were found between the two treatment regimes at any of the 24 hourly postoperative evaluations (Graph 1). The sum of the pain intensity for hours 2 through 8 was less in the group that received sodium naproxen. For hours 8-24, the sum of the pain



Graph 1. Pain intensity during the 24-hour period after tooth extraction
Grafikon 1. Intenzitet bola tokom 24 časa nakon vađenja zuba

intensity was less in the placebo group but this difference was not statistically significant (Graph 1).

DISCUSSION

Apprehension over the severity and extent of postoperative pain is extremely common in patients who are undergoing minor oral surgery. Severe pain in the dental practice is most likely to occur as a result of infections, trauma, temporomandibular joint or occlusal disorders. The first consideration or recommendation for such pain control is to employ analgesics. Clinical experiences show that even after a simple tooth extraction, patients tend to take analgesics by either themselves or by a dentist's recommendation, just in case there might be a little possibility of pain [1, 2, 3].

However, receiving analgesics can cause side effects in patients as well as unpleasant conditions, such as gastric upset, renal failure and hypersensitivity reactions [4, 5]. In addition, there might be economic losses for patients too, when the cost of analgesics is considered. Therefore, analgesics should be prescribed or recommended carefully. Some studies conducted on analgesics have shown that naproxen sodium is particularly effective for the control of acute pain [6, 7]. For this reason, naproxen sodium 550 mg was selected in order to have a painless postoperative period.

Depending on the degree of trauma received during the surgical procedure and on an individual patient's ability to cope with the sequelae, the use of analgesics may be necessary or not following routine dento-alveolar day surgery. Koo et al. [8] investigated postoperative problems after uncomplicated tooth extractions in healthy and medically compromised patients. They found that the use of analge-

sics was considerably higher in medically compromised patients compared with healthy patients after simple extractions. On the other hand, medically compromised patients more often experienced pain in spite of the use of analgesics than healthy patients [8].

We observed that although the pain score increased mildly until the fourth hour in the placebo group, there were not statistical differences between pain scores in both group conditions. Thus, uncomplicated extraction did not cause a significant pain and there was no need to use postoperative analgesics for such cases.

Previous studies have shown that post-operative dental pain is variable in its nature and intensity, but the most severe pain occurs within the first 12 hours and reach maximum intensity in 3 to 8 hours postoperatively [9, 10]. In addition, the factors contributing to the pain after surgery are complex, but many are related to the inflammatory process. Pain may be reduced in intensity or severity by controlling the inflammatory process [7, 11, 12]. Therefore, analgesics should be taken when the patients are at risk for expecting and experiencing pain, such as oro-facial abscess, alveolitis and surgical exodontia.

Significant differences in the pain experience after different operative procedures were noted. The removal of the impacted lower third molars and retained roots results in more post-operative pain than various other operative procedures. The incidence and severity of post-operative pain showed no clear relationship to the duration of the surgical procedure [10]. This present study emphasizes that after an uncomplicated extraction of mandibular third molars, patients do not experience severe pain even if they did not receive any analgesics. Therefore, prescription of analgesics for the control of pain is mostly unnecessary for such cases.

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Address for correspondence

Dr. Sinan TOZOGLU
 Department of Oral and Maxillofacial Surgery
 Faculty of Dentistry
 Ataturk University
 Erzurum, 25240
 Turkey
 Work phone: +90 442 2312771
 Fax: +90 442 2360945
 Email: stozoglu@hotmail.com

Neophodnost prepisivanja analgetika posle vađenja zuba

Sinan Tozoglu, Metin Gungormus, M. Cemil Buyukkurt, M. Selim Yavuz

Klinika za oralnu i maksilofacijalnu hirurgiju, Univerzitet "Ataturk", Erzurum, Turska

KRATAK SADRŽAJ

Uvod Bol i neprijatnost koji prate dentoalveolarne hirurške zahvate često su veliki problem kako za pacijente, tako i za stomatologe. Cilj ovog rada bio je da se proveri neophodnost prepisivanja analgetika posle nekomplikovanog vađenja donjih umnjaka.

Materijal i metode rada Istraživanjem je obuhvaćeno 76 osoba kod kojih je bilo neophodno vađenje donjih umnjaka s obe strane. Posle vađenja umnjaka s jedne strane pacijenti su primili 550 mg natrijum-naproksena ili placebo terapiju. Redosled primene lekova bio je promenjen nakon vađenja umnjaka s druge strane. Jačina bola posle hirurške intervencije merena je pomoću skale sa šest stepeni. Za analizu dobijenih rezultata korišćen je Man-Vitnijev (*Mann-Whitney*) U-test.

Rezultati Poređenjem sume intenziteta bola od dva časa do osam časova uočeno je da je bol bio manji kod ispitanika koji su dobijali analgetik natrijum-naproksen. Od osam časova do 24 časa bolne senzacije su bile manje kod ispitanika koji su primali placebo terapiju, ali bez statistički značajne razlike.

Zaključak Nekomplikovano vađenje zuba ne izaziva značajniji bol i ne postoji potreba za prepisivanjem analgetika u takvim slučajevima.

Ključne reči: analgetici; vađenje zuba; postoperacioni bol

UVOD

Bol i neprijatnost koji prate dentoalveolarne hirurške zahvate često su veliki problem kako za pacijente, tako i za stomatologe. Bol koji je potrebno hitno suzbiti najčešće nastaje kao posledica infekcije, traume ili oboljenja zuba i temporomandibularnog zgloba. S obzirom na brigu stomatologa da lečenje pacijenta prođe što bezbolnije, u slučajevima kao što je nekomplikovano vađenje zuba vrlo često se pacijentima preporučuje primena analgetika i antiinflamatornih lekova [1, 2, 3]. Neretko pacijenti samoinicijativno, zbog toga što očekuju bol, uzimaju analgetike i bez preporuke stomatologa. S druge strane, analgetici ispoljavaju neke neželjene efekte, te mogu dovesti do stomaćnih tegoba, slabosti bubrega i alergijske reakcije [4, 5]. Stoga je vrlo značajno znati šta se može očekivati posle hirurške intervencije i da li je primena analgetika zaista neophodna da bi se postoperacioni bol adekvatno kontrolisao.

Cilj ovog rada bio je da se proveri neophodnost prepisivanja analgetika posle nekomplikovanog vađenja donjih umnjaka.

MATERIJAL I METODE RADA

Istraživanjem je obuhvaćeno 76 osoba kod kojih je bilo neophodno vađenje donjih umnjaka s obe strane. Vađenje umnjaka bilo je indikovano iz ortodontskih razloga. U istraživanje su bili uključeni samo pacijenti s obostrano prisutnim umnjacima i očekivanim nekomplikovanim vađenjem. Ispitivanu grupu činilo je 48 pacijenata muškog i 28 ženskog pola, prosečne starosti od 25,1±4,5 godina. Pre početka istraživanja svaki ispitanik se saglasio s objašnjenim protokolom, a sve procedure su izvedene u skladu s Helsinškom deklaracijom.

Prilikom vađenja umnjaka s jedne strane pacijenti su primili natrijum-naproksen u dozi od 550 mg oralno ili placebo terapiju dva sata po vađenju zuba. Redosled primene lekova je promenjen posle vađenja umnjaka s druge strane vilice. Postupak vađenja i poredak davanja lekova bili su slučajno izabrani. Sve ekstrakcije je izveo isti stomatolog standardnim načinom rada uz primenu iste lokalne anestezije (dvoiprocenatni artikain sa 1:100.000 epinefrina).

Pacijentkinje u drugom stanju i dojilje, pacijenti koji su uzimali analgetike, anksiolitike ili sedative i osobe alergične na natrijum-naproksen nisu uključeni u ovu studiju. Pacijenti koji su u anamnezi naveli krvarenje u gastrointestinalnom traktu, gastroenteritis ili sindrom malapsorpcije koji bi mogao poremetiti apsorpciju, metabolizam ili izlučivanje leka takođe su isključeni iz ispitivanja.

Bol kod ispitanika meren je na skali od šest podeoka, gde 1 označava da nema bola, 2 – blag bol, 3 – umeren bol, 4 – jak bol, 5 – vrlo jak bol, a 6 – neizdržljiv bol. Za analizu dobijenih podataka korišćen je Man-Vitnijev (*Mann-Whitney*) U-test.

REZULTATI

Dobijeni rezultati prikazani su na grafikonu 1. Posle operacije 76 pacijenata je dalo podatke. Nije uočena značajna razlika u intenzitetu bola između ispitanika testiranih različitim postupcima lečenja nakon 24 časa od završene intervencije (Grafikon 1). Poređenjem sume vrednosti intenziteta bola od dva časa do osam časova posle vađenja zuba manji bol je zabeležen kod ispitanika koji su primali analgetik natrijum-naproksen. Od osam časova do 24 časa vrednosti su bile manje u grupi ispitanika koji su primili placebo terapiju, ali razlika nije bila statistički značajna (Grafikon 1).

DISKUSIJA

Očekivanje bola je svakodnevna pojava kod pacijenata koji se podvrgavaju oralnohirurškim intervencijama. Jak bol u stomatološkoj praksi najverovatnije je posledica infekcije, traume, temporomandibularnih, odnosno okluzivnih problema. Prvi izbor u suzbijanju ovog tipa bola su analgetici. Kliničko iskustvo pokazuje da i posle jednostavnog vađenja zuba pacijenti sami pribegavaju uzimanju analgetika, čak i ako je vrlo malo verovatno da će doći do pojave bola [1, 2, 3].

Analgetici, međutim, mogu izazvati neželjene efekte i neprijatnosti, kao što su stomaćne tegobe, slabost bubrega i alergijske reakcije [4, 5]. Nije zanemarljiva ni količina potrošenog

novca na analgetske lekove. Zbog toga analgetike treba prepisivati i preporučivati vrlo oprezno. Studije izvedene u ove svrhe pokazuju da je natrijum-naproksen samo delimično efikasan u kontroli akutnog bola [6, 7]. Stoga je primenjen u dozi od 550 mg, kako bi se obezbedio bezbolan postoperacioni period.

U zavisnosti od traume koja je nastala tokom hirurške intervencije i individualnog stanja pacijenta da se nosi s posledicama, primena analgetika može biti (ali ne mora) obavezna posle svake dentoalveolarne hirurške intervencije. Ku (*Koo*) i saradnici [8] su ispitivali tegobe posle nekomplikovanog vađenja zuba kod zdravih i osoba s nekim drugim oboljenjem. Oni su uočili da je primena analgetika posle ove hirurške intervencije višestruko veća kod pacijenata kod kojih postoji neko drugo oboljenje nego kod zdravih ispitanika. S druge strane, pacijenti sa drugim oboljenjem su mnogo češće osećali bol u odnosu na zdrave pacijente, uprkos primeni analgetika [8].

U našem istraživanju je zabeleženo da, uprkos blagom povećanju vrednosti bola posle četiri časa u grupi ispitanika koja je primala placebo terapiju, nije postojala statistički značajna razlika između vrednosti bola u obe grupe. Stoga se može reći

da nekomplikovane ekstrakcije nisu izazvale značajniji bol i nije bilo potrebe za primenom analgetika u takvim slučajevima.

Prethodne studije su pokazale da bol posle hirurškog zahvata varira u prirodi i intenzitetu, ali da je najjači tokom prvih 12 časova, a maksimum dostiže od tri časa do osam časova nakon intervencije [9, 10]. Faktori koji utiču na nastanak bola posle intervencije su složeni, ali su uglavnom povezani s procesom zapaljenja. Bol se može smanjiti kontrolisanjem samog zapaljenja [7, 11, 12]. Zato primenu analgetika treba preporučiti samo onda kada postoji rizik od nastanka bola, odnosno kod orofacijskih apscesa, alveolitisa i hirurškog vađenja zuba.

Značajna razlika u intenzitetu bola može se zapaziti kod različitih hirurških procedura. Vađenje donjeg umnjaka i impaktiranih zuba češće dovodi do pojave postoperacionog bola nego drugi hirurški postupci. Incidencija i jačina bola posle operacije ne pokazuju jasnu vezu sa trajanjem hirurške intervencije [10]. Naše istraživanje je pokazalo da pacijent posle nekomplikovanog vađenja zuba nije osećao jak bol i bez primene analgetika. Prepisivanje analgetika nije neophodno kada je vađenje zuba proteklo jednostavno i bez komplikacija.