EFFECT OF DEXAMETHASON, IBUPROFEN COMBINATION ON POST OPERATIVE SEQULE OF THIRD MOLAR SURGERY

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ABSTRACT

Mandibular third molar is most commonly impacted tooth in dental arch. Removal of mandibular third molar is common surgical procedure in oral surgery. The surgical removal of impacted third molar is not without morbidity, post operative pain, swelling and trismus are universal.

64 patient with bilateral mandibular impaction were included in this study, two surgical procedure were carried on each patient at four week appointments. One group is taken as study group, in which 8mg dexamethason I / m was given one hour before surgery followed by 600mg ibuprofen orally for five days. The other group was taken as control group and distilled water was given one hour before surgery intramuscularly followed by 600mg ibuprofen orally for five days. The effects of drugs on patients were noted.

31.2% (n=20) patients reported mild pain, 56.6% (n=35) moderate and 14.4% (n=9) reported sever pain. 14.4% (n=9) reported mild swelling, 64% (n=41) moderate and 21.8% (n=14) reported sever swelling, 23.4% (n=15) reported mild trismus ,51.5% (n=33) moderate and 25% (n=16) reported sever trismus in control group. While in study group 64% (n=41) reported mild pain 32.8% (n=21) moderate and 3.1% (n=2) reported sever pain. 46.8% (n=30) reported mild swelling, 43.7% (n=28) moderate, and 9.3% (n=6) reported sever swelling. 54.6% (n=35) reported mild trismus, 43.7% (n=28) moderate and 1.5% (n=1) reported sever trismus on third post operative day in both groups.

Dexamethason and ibuprofen combination was found effective for early recovery and the patients who used this combination suffered less pain, swelling and trismus after third molar surgery.

Key words. Impaction, Dexamethason, Pain, Swelling, Trismus.

INTRODUCTION

An Impacted tooth is one that fails to erupt into dental arch within the expected time. The common impacted teeth are third molars. The reasons for impaction of these teeth are that they are the last teeth to erupt and most likely have inadequate space in dental arch.

Impacted teeth should be considered for removal as soon as the diagnosis is made. Removal of mandibular third molar is most common surgical procedure in Oral Surgery.

The removal of impacted third molar involves trauma to the soft and bony tissues, resulting in pain, swelling and trismus. Steroids have been particularly well studied because they are potent anti-inflammatory agents. (Hooley and Francis). In a well controlled experiment showed that betamethasone taken orally reduced, edema, pain, and trismus following third molar removal. (Hoffman) using methylprednisolone was able to show a decrease in the post operative edema following third molar removal. Messer and Keller using Dexamethason reported decrease in pain, swelling, and trismus. *
There is impact of 3rd molar surgery on the quality of life. Interference with routine activities and work or school be expected. But the pain interfered with daily activities much longer. The importance of ensuring the quality of treatment is well understood by the dentists. Several types of medications have been used in the past to inhibit the postoperative complications. Various corticosteroids have been used in the past studies, but Dexamethason seems to be most suitable because it has the highest anti-inflammatory activity. Ibuprofen is a nonsteroidal anti-inflammatory excellent analgesic in dental pain. Ibuprofen displays an analgesic onset within one hour, peak analgesic effect is achieved in about two hours and have duration of action six hours.

With the help of this study we have tried to find out the effectiveness of Dexamethason and Ibuprofen when given in combination, for its effectiveness on postoperative pain, swelling and trismus, following 3rd molar surgery.

OBJECTIVES

The objectives of this study were:

1. To determine the efficacy of Dexamethason given in combination with Ibuprofen for reducing pain, swelling and trismus.
2. To determine the effect on the patient medicated with Dexamethason and Ibuprofen vs patient not medicated with Dexamethason and Ibuprofen.

MATERIALS AND METHODS

This study was carried out in the Department of Oral and Maxillofacial Surgery, Khyber College of Dentistry, Peshawar from February 2002 to September 2002. All subjects reporting to the outdoor section of the department with oral examination findings suggestive of bilateral mandibular molar impaction were taken up in this study. Those patients with adverse medical history and unilateral impaction or with the history of antibiotics and analgesics taken for the treatment of impaction were excluded from the study.

A specially designed proforma was filled and a detailed history was taken, subjects were specifically asked about the bleeding disorders, cardiovascular diseases, drug allergies, past medical history, adverse effects to local anesthetics, hypertension and diabetes. A thorough oral examination was done to rule out any other oral pathology.

Sixty four cases of mandibular bilateral third molar impaction requiring surgical removal were included in this study. Age of the patients ranged from 19-28 years. Every patient was operated on two different occasions. The first procedure was done on left side and was included in the study group where as second procedure was done on the right side and was considered as control group. Intra appointment period between second procedure was four weeks.

Intramuscular injection of 8mg dexamethason was given to the patients in the study group one hour before the surgery followed by ibuprofen 600mg orally 8 hourly for 5 days.

In control group we used distilled water as intramuscular injection one hour before surgery followed by Ibuprofen 600mg orally 8 hourly for next 5 days. The patients in both groups were prescribed standard dose of oral penicilline and metronidazole for five days.

Local anaesthesia containing 2% lignocaine with 1:100000 adrenaline was used. Standard incision for lower third molar was given with number 15 Bard Parker using blade. Buccal and distal bone cutting was done by using round bur and tooth sectioning was done by straight fissure burusing straight hand piece under copious amount of irrigation with normal saline. The socket was turreted, rough bone surfaces smoothened with bone file and thoroughly irrigated, wound was closed by interrupted sutures by using 3/0 black silk.

Clinical assessment of the patient was done on second, third and fifth post operative day, for pain, swelling and trismus. A simple method of mild, moderate and sever was used to evaluate pain, swelling and trismus.

Pain was considered mild which did not require any extra analgesic by the patient.

Moderate pain required occasional extra analgesic.

Sever pain required the extra analgesic and prevented the patient to perform the normal social activities.
Mild swelling was that which could not be noticed by others.

Moderate which could be noticed by the patient and family members but was not so marked.

Sever swelling that was easily noticed by others.

- Trismus was measured by vernier caliper in mm.
- Mild if intrincisal distance was less then 30 mm
- Moderate if intrincisal distance was less then 25 mm
- Sever if intra incisal distance was less then 15 mm.

**RESULTS**

Among the 64 cases of bilateral mandibular impaction 28 were female and 36 were male. The mean age of female was 23 years (range 19-27) and male 21 (range 19-28).

All 64 patients completed all the stages of the study. 128 mandibular third molars were removed. 64 were in the control group and 64 were in the study group.

The result taken on the third post operative day showed, 64% (n=41) patients in study group had reported mild pain. 32.8% (n=21) had reported moderate pain and 3.1% (n=2) had reported sever pain. Regarding trismus 56.6% (n=35) reported mild trismus. 43.7% (n=28) reported moderate trismus and 1.5% (n=1) reported sever trismus. In case of swelling 46.8% (n=30) had reported mild swelling. 43.7% (n=28) reported moderate swelling and 9.3% (n=6) sever swelling. Result of the study group are shown in table 1 and fig 1.

31.2% (n=20) patient in control group reported mild pain, 54.6% (n=35) reported moderate pain. 14.6% (n=9) reported sever pain. 23.4% (n=15) reported mild trismus. 51.5% (n=33) reported moderate trismus. 25% (n=16) reported sever trismus. The results of the swelling in the control group were; 14.4% (n=9) reported mild swelling, 64% (n=41) reported moderate swelling, and 21.8% (n=14) had reported sever swelling on third post operative day. The results of the control group are shown in table 2 and fig 2.
The study group showed negligible complications on fifth post operative day whereas in the control group seven patients complained of moderate, and three of severe pain while six patients complained of severe swelling. Three patients complained of moderate and five of severe trismus.

DISCUSSION

Dexamethason is a steroid with potent anti inflammatory properties. Our study showed that a single intramuscular 8mg dose of this drug can significantly reduce pain, swelling and trismus after third molar surgery. There are few contraindication to the use of dexamethason namely the patient with active or healed tuber-culosis, glaucoma and diabetes. They should not receive steroid drugs. For other patients the use of single dose of 8mg has important advantages. Prolonged use of steroids can cause adrenal suppression. Novak and associates" showed that healthy subject when given single large dose of methylprednisolone had no complications Williamson and colleagues" observed that the initial suppression of the adrenals following 8mg intravenous dose of dexamethason returned to normal within seven days. Our study proves that the combination of ibuprofen with dexamethason significantly reduces the post operative sequel of third molar surgery. The patient in the study group reported less pain and significantly less swelling and trismus than in the control group.

CONCLUSION

For the control of post surgical pain, swelling and trismus, dexamethason and ibuprofen combination were found to be more effective. This combination leads to early recovery of patient to return to normal social life. No side effect related to the use of ibuprofen and dexamethason were encountered during the study.

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REFERENCES


