ABSTRACT

AIM

To evaluate the efficiency of intraosseous injection of methyl prednisolone acetate (Depo-medrol) in reducing pain in untreated and treated acute irreversible pulpitis.

OBJECTIVES:

1. To evaluate whether intraosseous injection of methyl prednisolone acetate is safe to administer in patients.
2. To evaluate whether intraosseous injection of methyl prednisolone acetate is effective in reducing pain in cases of acute irreversible pulpitis.
3. To evaluate whether patients who are injected intraosseous methyl prednisolone acetate required analgesics in 7 day period.
4. To find out whether it is possible to perform complete pulpectomy under local anesthesia on the 7^{th} day in methyl prednisolone acetate group.
5. To evaluate pain and discomfort while performing complete pulpectomy on the 7^{th} day in patients who are administered methyl prednisolone acetate.
6. To evaluate whether intraosseous injection of saline is safe to administer in patients.
7. To evaluate whether intraosseous injection of saline is effective in reducing pain in cases of acute irreversible pulpitis.

8. To evaluate whether patients who are injected intraosseous saline require analgesics in 7 day period.
9. To evaluate whether antibiotic prophylaxis was effective in reducing pain in acute irreversible pulpitis.
10. To evaluate whether patients who are administerd prophylactic antibiotics require analgesics to control pain due to acute irreversible pulpitis.
11. To evaluate the effectiveness of 2% lignocaine intaosseus injection in reducing pain during pulpectomy on day 0.
12. To evaluate whether complete pulpectomy was achievable on day 0 using intraosseous administration of 2 % lignocaine.
13. To evaluate effectiveness of pulpectomy done under 2% lignocaine intraosseous injection on day 0,in alleviating pain over a period of 7 days
14. To evaluate whether patients who are injected intraosseous lignocaine and pulpectomy done on day 0 required analgesics over 7 day period.
15. To evaluate and compare profound anesthesia, pain reduction and ability to perform pulpectomy with comfort in patients who were administered methyl prednisolone acetate compared to control group (saline), antibiotic group and patients where emergency pulpectomy performed with 2% lignocaine containing 1:100000 adrenaline.

METHODOLOGY:

Eighty patients between age groups 18 to 35 with acute irreversible pulpitis pain and requiring emergency treatment participated in the study. Patients are divided into 4 groups of 20 each.

Group I-20 patients were administered intra-osseous methyl prednisolone acetate (Depo-Medrol) injection and recalled for pulpectomy on the 7th day.

Group II-20 patients were administered intra-osseous saline injection and recalled on the 7th day for pulpectomy (control group).

Group III-20 patients were prescribed with antibiotic prophylaxis (amoxycillin 500mg thrice daily for 3 days) were recalled on the 7 day for pain evaluation and pulpectomy.

Group IV- In 20 patients intra-osseous injection of 2% lignocaine with 1:100000 adrenaline was administered. Emergency pulpectomy is attempted. Patients are recalled on the 7th day for continuing root canal treatment.

Group I and II (40 patients) were administered intra-osseous injection of either 1ml (40mg/ml) of methyl prednisolone acetate (Depo-medrol) or 1ml of 0.9% preservative free sterile saline (Sodium chloride). In Group III antibiotic prophylaxis prescribed for 3 days and recalled on 7th day for pulpectomy. Pain evaluation is done on a pain scale of 0 to 3, (by Gallatin et al). Each patient is asked to fill a 7-day questionnaire (survey) every day. They were instructed to record pain and percussion pain using the 4-point scale used for the initial pain recordings. On the recall appointment on the 7th day for Group I, II and III, pain evaluation is done in patients for the duration of seven days. Pulp vitality was determined for each patient with electric pulp tester and Endo frost before pulpectomy is commenced under nerve block or infiltration. Group IV patients were administered on 2% lidocaine with 1:100000 epinephrine intraosseously and

emergency pulpectomy is performed on day zero. On the 7th day recall root canal treatment is continued in Group IV. Data were analyzed statistically.

RESULT

Out of eighty adult volunteers who participated in the study, forty four (55%) were males and thirty six (45%) were females. No statistical difference was there between the 4 groups selected for the study regarding the preoperative parameters. Evaluation of 4 study groups showed a significant reduction in acute irreversible pulpitis pain, with intraosseous injection of methyl prednisolone acetate (Depo Medrol) when compared to control group saline and antibiotic groups which required analgesics till day 7 to control pain. In Group I methyl prednisolone acetate group (Depo Medrol) pulpectomy and Post endodontic restoration was performed with more ease and comfort compared to other study groups.

CONCLUSION

Adequate anesthesia, pain reduction and ability to perform pulpectomy with comfort was achieved in patients after they were administered methyl prednisolone acetate (Depo-medrol) compared to control group (saline), prophylactic antibiotic group and patients where emergency pulpectomy performed with 2% lignocaine containing 1:100000 adrenaline.

KEYWORDS: Local anesthesia, Infiltration, Intraosseous injection, Stabident, Articaine, lidocaine, maxillary molar, acute irreversible pulpitis.