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Comprehensive Assessment of Clinical Efficiencies of Dylotop and Naproxen in Managing Postoperative Pain Related to Common Oral Surgical Procedures: An Original Research Study

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Abstract

Background & Aim: Postoperative pain is common in various oral surgical procedures. This ranges from mild to severe depending on the extent of surgery and type of intervention. This pain is constant sometimes even after the analgesic administration. Therefore, this study was planned, outlined and conducted to assess the clinical efficiencies of Dylotop and Naproxen in controlling postoperative pain related to common oral surgical procedures.

Materials and Methods: Total 60 patients were included in the study in the age range of 30-45 years. Randomization was done and patients were categorized into 2 groups. All Patients were recalled after 48 hours and 72 hours of intended oral surgical procedures. Patients were asked for pain and its associated considerations. Visual analog scale (VAS) was used to compute the degree and level of pain and its control. Group 1 consisted of 30 patients wherein Dylotop was utilized. In Group 2 patients, Naproxen was used on 30 patients. Statistical analysis was performed to outline the outcomes and results. P value less than 0.05 was taken as significant. P value less than 0.05 was taken as significant.

Statistical Analysis and Results: Basic statistical analysis was done with SPSS software version 22 for Windows. Out of 60 studied patients, 41 were males and 19 were females. In Group 1; after 48 hours, 23 patients were exhibited satisfactory responses about pain control. 5 patients showed non- satisfactory responses. In Group 2; after 48 hours, 27 patients were showed satisfactory responses about pain control. 2 patients showed non- satisfactory responses. After 72 hours, 28 patients were exhibited satisfactory responses about pain control. 1 patient showed non- satisfactory responses. Here, p value was highly significant. The interpretations of ANOVA confirmed that level of significance (p value) was highly significant.

Conclusion: Authors concluded that both of the experimented pain relievers are effective however; Naproxen was fairly superior in postoperative pain control when compared with Dylotop. Interpretations were statistically significant for non-satisfied cases in both the groups checked at both timings.

Keywords: Postoperative Pain, Dylotop, Naproxen, Oral Surgery, Visual Analog Scale, Extractions

Introduction

As per the literature and national library of medicine of USA, pain is a signal in your nervous system that something may be wrong. It is an unpleasant feeling, such as a prick, tingle, sting, burn, or ache. Pain may be sharp or dull. It may come and go, or it may be constant. Pain is an unpleasant sensory and emotional experience related with, or resembling that associated with,

actual or potential tissue damage.[1] Dental pain is constantly an individual experience that is predisposed to varying degrees by biological, psychological and social factors. The oral surgery related pain worsens once the anesthetic wears off. Throbbing pain during the first 24 hours post-extraction is a sign that your body is healing. Headaches, pain around the temples, neck or jaw and a sore throat may result in post-operative phase of oral surgery. Al these could be augmented as referred pain in craniofacial structures. Several pharmacological and non-pharmacological methods have been tried in the literature by different researchers to manage this post-operative pain. However, none of the method is appeared to be ideal and free of complications.[2] Therefore, this study was planned, outlined and conducted to assess the clinical efficiencies of Dylotop and Naproxen in controlling postoperative pain related to common oral surgical procedures.

Materials and Methods

This study was performed with the aim of comparing Dylotop and Naproxen for post oral surgical pain control. Systematic random sampling procedure was finalized for accurate sample selection. Written and informed consent was obtained from each participating subject. Total 60 patients were included in the study. Study procedure was examined to each patient in detail. Inclusion criteria included followings; patients undergoing extractions, frenectomy, impaction surgeries, removal of small soft tissue swellings/lumps, intentional drainage of intraoral abscess, implant surgeries and all complicated extractions. Extraction criteria included followings; patients with known systemic disease, all blood dyscrasias, all hematological disorders, patients on anticoagulant therapy, hepatic diseases and leukemia. Both male and female patients were studied. All 60 selected patients were in the patients in the age range of 30-45 years. All patients were selected predominantly in their post-operative recall stages to monitor their replies. Randomization was done to minimize the selection bias of the study if any. All 60 patients were categorized into 2 groups based on their pain-relieving drug used after oral surgical procedures. All Patients were recalled methodically after 48 hours and 72 hours of intended oral surgical procedures. In their recall visits, patients were asked for pain and its associated considerations. Patients were also enquired about any specific pattern of pain and general efficiency of the administered pain reliever drug. Patients were finally questioned about the total level of satisfaction about pain management. For the effective conversion of qualitative responses into quantitative values, visual analog scale (VAS) was used to compute the degree and level of pain and its control. Group 1 consisted of 30 patients wherein Dylotop (for pain relieve and antipyretic) was utilized. It consisted of Diclofenac Sodium, Paracetamol & Serratiopeptidase. In Group 2 patients, Naproxen was used on 30 patients. Naproxen is a non-steroidal anti-inflammatory drug (NSAID) and it works by blocking the release of certain chemical messengers that cause fever, pain and inflammation redness and swelling. Naproxen is highly popular for its rapid pain relief. Statistical analysis was performed to outline the outcomes and results. P value less than 0.05 was taken as significant.

Statistical Analysis and Results

All the documented data were patterned at preliminary stages for existence of any noticeable incorporated confounders. Post hoc analysis was not endeavored so as to certify data quality with negligible faults. Later, data was sent for basic statistical analysis with SPSS statistical package for the Social Sciences version 22 for Windows. Nonparametric test, namely, chi-square test, was used for further data analysis; p-value. Out of 60 studied patients, 41 were males and 19 were females [Table 1, Graph 1]. P-value was highly significant for age group 30-33 years. Here p value was 0.01. All the other age groups presented non-significant p values for their calculations and implications. Maximum 23 patients were observed in age group 34-38. Table 2 demonstrates about the Fundamental statistical explanation with level of significance assessment using "Pearson Chi-Square" test (Group 1; n=30 patients wherein Dylotop [Diclofenac Sodium, Paracetamol & Serratiopeptidase Tablets] used) and interpreted as satisfactory or non-satisfactory after 48 hours and 72 hours of intended oral surgical procedures. After 48 hours, 23 patients were exhibited satisfactory responses about pain control. 5 patients showed non-satisfactory responses. Here, p value was highly significant. 2 patients were with Questionable responses. After 72 hours, 25 patients were exhibited satisfactory responses about pain control. 3 patients showed non- satisfactory responses. Here, p value was highly significant. 2 patients were with Questionable responses. Table 3 is about the Fundamental statistical explanation with level of significance assessment using "Pearson Chi-Square" test (Group 2; n=30 patients wherein Naproxen used) and interpreted as satisfactory or non-satisfactory after 48 hours and 72 hours of intended oral surgical procedures. After 48 hours, 27 patients were showed satisfactory responses about pain control. 2 patients showed non- satisfactory responses. Here, p value was highly significant. 1 patient was with Questionable responses. After 72 hours, 28 patients were exhibited satisfactory responses about pain control. 1 patient showed non- satisfactory responses. Here, p value was highly significant. 1 patient was with Questionable responses. Table 4 revealed about the basic assessment conducted amongst all studied groups using one-way ANOVA test. The interpretations confirmed that level of significance (p value) was highly significant for ANOVA test conducted between groups. It was significantly 0.001.

Table 1: Age & Gender based statistical explanation of contributing patients

Age Group (Yrs)	Male	Female	Total	P value
30-33	11	08	19	0.01*****
34-38	16	07	23	0.30
39-42	08	02	10	0.10
43-45	06	02	08	0.70
Total	41	19	60	***p<0.05 Significant**

Graph 1: Patients Demographic Distribution and Associated Details

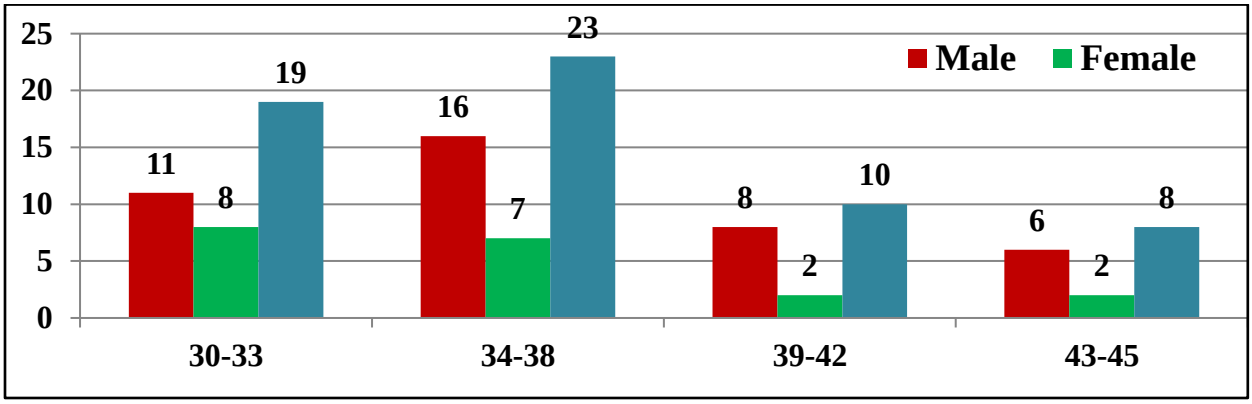

Table 2: Fundamental statistical explanation with level of significance assessment using "Pearson Chi-Square" test (Group 1; n=30 patients wherein Dylotop [Diclofenac Sodium, Paracetamol & Serratiopeptidase Tablets] used) and interpreted as satisfactory or non-satisfactory after 48 hours and 72 hours of intended oral surgical procedures

Status	n	Stat. Mean	Std. Dev.	Std. Error	95% CI	Pearson Chi-Square	df	p value
After 48 hours								
Satisfactory	23	1.91	0.940	0.376	1.96	1.549	1.0	0.07
Non-satisfactory	05	1.08	0.230	0.940	1.12	1.904	2.0	0.02*
Questionable	02	1.02	0.695	0.042	1.23	1.131	1.0	0.10
After 72 hours								
Satisfactory	25	1.93	0.390	0.436	1.66	1.349	1.0	0.06
Non-satisfactory	03	1.06	0.912	0.126	1.22	1.047	2.0	0.01*
Questionable	02	1.02	0.748	0.422	1.03	1.233	1.0	0.80
***p<0.05 significant**								

Table 3: Fundamental statistical explanation with level of significance assessment using "Pearson Chi-Square" test (Group 2; n=30 patients wherein Naproxen used) and interpreted as satisfactory or non-satisfactory after 48 hours and 72 hours of intended oral surgical procedures

Status	n	Stat. Mean	Std. Dev.	Std. Error	95% CI	Pearson Chi-Square	df	p value
After 48 hours								
Satisfactory	27	1.96	0.039	0.930	1.96	1.940	1.0	0.09
Non-satisfactory	02	1.02	0.230	0.524	1.12	1.921	2.0	0.01*
Questionable	01	1.01	0.645	0.934	1.43	1.032	1.0	0.10

After 72 hours								
Satisfactory	28	1.84	0.840	0.392	1.91	1.368	1.0	0.06
Non-satisfactory	01	1.04	0.230	0.583	1.13	1.903	2.0	0.01*****
Questionable	01	1.01	0.745	0.973	1.83	1.526	1.0	0.50
***p<0.05 significant**								

Table 4: Evaluation amongst all studied Groups using one-way ANOVA

Variables	**Degree of Freedom**	**Sum of Squares ∑**	**Mean Sum of Squares m∑**	**F**	**Level of Sig. (p)**
Between Groups	3	2.054	1.238	1.1	0.001*****
Within Groups	18	2.039	0.125	-	
Cumulative	121.42	12.577	***p<0.05 significant**		

Discussion

Dental pain is highly troublesome to the patients before, during and after surgical interventions. There are variety of oral surgical procedures those performed for different indications and requirements.[3] As a dental health professional it's our moral duty to minimize the pain as much as possible. Post-operative pain related to minor oral surgeries are often confronted by patients soon after the stoppage of bleeding. Literature has well evidenced about the usages of different pain relieving drugs and their combinations. In India, a variety of pain relievers are available in the market as over the counter pain killers.[4] These are frequently available solo or with some augmented combinations. Each drug and its combinations are having their own range of actions and limitations. Barden and associates studied about the relative efficacy of oral analgesics after third molar extraction in 2004. Their inferences were somewhat in accordance with our results.[5] Cicconetti and colleagues have experimented about the COX-2 selective inhibitors: a literature review of analgesic efficacy and safety in oral-maxillofacial surgery in 2004. They also recommended these group of drugs for the potential use in post-operative stages of oral surgeries.[6] Fletcher and other coworkers have studied in detail about the Management of acute postoperative pain after oral surgery which was published in the series of Dental Clinics of North America.[7] They also suggested the logical usage of analgesics in post-operative phases of oral surgeries. Buvanendran and other workers had studied about the Multimodal analgesia for controlling acute postoperative pain. Their results were highly comparable with our results.[8] Similar interpretations have also been proposed and demonstrated by other pioneer workers in the recent past.[9-12]

Conclusion

Within the limitations of the study authors concluded highly critical outcomes. They concluded that both of the experimented pain relievers are equivalently effective in dealing post-operative

pain after common oral surgical procedures. Nevertheless, Naproxen was fairly superior in pain control when compared with Dylotop. These outcomes were identified at both of the tested timings (48 & 72 hours). Nevertheless, interpretations were statistically significant for non-satisfied cases in both the groups. Furthermore, both of the experimented pain relievers have their own pros and cons with recognized and recommended precautions. Authors also presume some long term future studies to be executed to authenticate and confirm our results.

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