ORIGINAL ARTICLE

Chlorhexidine as Intracanal Irrigant for Endodontic Pain Control

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ABSTRACT

The endodontic irrigation is very important for success of any root canal treatment. The aim of present study was to find out the efficacy of 2% chlorhexidine endodontic irrigant for pain control while root canal treatment. Current study was conducted on 350 endodontic patients where 2% chlorhexidine was used. Mean age of patients was 30.50±11.59 and mean pain score after 24 hours was 4.00±2.18. Chlorhexidine solution (2%) was found to be effective for pain control while endodontic treatment.
Keywords: Debridement of pulp; Pain levels; 2% Chlorhexidine.

INTRODUCTION

It is highly desirable that endodontic irrigants should posses following properties:anti-bacterial action, clearance of all debris, helps in clearing of canals, and non-toxicity toperi-radicular tissues[1-4].

Chlorhexidine a cationic bisguanide and its 2% concentration has been suggested as an alternative irrigant to sodium hypochlorite and its bacteriocidal and bacteriostatic action depends on concentration used and it targets micro- organisms by adsorbing onto cell wall and causing leakage of intracellular components.[5-10]

In literature it is seen that mean pain level at 24 hours was same in both treatment groups, but when pain intensity was considered (no, mild moderate severe) then chlorohexidine gives better results as compare to sodium hypochlorite (p-value < 0.05). After completing this study evidence based data will help to enhance our knowledge about better intra canal irrigant available in reducing pain during root canal treatment and to encourage the use of intra canal irrigant in routine endodontic treatment[11-15].

The aim of present study was to find out the efficacy of 2% chlorhexidine endodontic irrigant for pain control while root canal treatment.

MATERIAL AND METHODS

This Randomized controlled trial was conducted at Department of Operative Dentistry, LMDC, Lahore after taking informed consent and ethics approval. Sample size of 350 cases was calculated taking expected pain level at 24 hours after chlorohexidine 1.30±0.54.

Patients 14-60 years of age of both genders, with insignificant medical history and not on nay medications were selected. All single rooted Maxillary and Mandibular teeth with necrotic pulps were chosen. With direct assess technique after local anesthesia and rubber dam placement, the working length was determined. The root canal preparation was performed with step back technique and irrigation was done with 2% chlorohexidine solution. Pain was recorded on VAS at 6 hrs and 24 hrs. by ethical committee of Lahore Medical and Dental College Lahore. Data was evaluated and analyzed in statistical software SPSS version 17.0.

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RESULT

Mean age of patients was 30.50±11.59 and mean pain score after 24 hours was 4.00±2.18. The age and gender distribution are shown in Table 1,2. Pain score distribution from 0 to 10 is given in Table 3.

Table 1: Age distribution

	***2%* Chlorohexidine**
N	350
Mean	30.50
SD	11.59
Minimum	14
Maximum	60

Table-2: Gender distribution

Gender	***2%* Chlorohexidine**
Male	130(37.2%)
Female	220(62.8%)
Total	**350**

Table 3: Descriptive statistics for pain after 24 hours

		***2%* Chlorohexidine**	
No Pain	*0*	15	4.23%
	1	3	0.85%
Mild Pain	*2*	22	6.20%
	3	20	5.63%
	4	2	0.56%
Moderate Pain	*5*	28	7.89%
	6	77	21.69%
	7	103	29.01%
Sever Pain	*8*	70	20.28%
	9	10	3.66%
Worst Pain	*10*	0	0.00%
Total		350	

DISCUSSION

Pain following endodontic treatment is one of the undesirable condition not only for patient but also for endodontist and knowledge on the causes of it is of key

importance for the endodontists. There are multiple factors related to pain following endodontic treatment i.e. mechanical, chemical and/or microbial factors[16].

Endodontic irrigants should have following key features: antibacterial action, dissolution of granulation tissues, cleaning of root canals and non-toxic for endodontic tissues[17].

Studies showed that 2% chlorhexidine gel (CHX) is one of the best irrigants in endodontics because of following key features: antibacterial action, dissolution of granulation tissues, cleaning of root canals and non-toxic for endodontic tissues.[11-15]Studies showed that 2% chlorhexidine showedprolong antimicrobial activity in endodontics for 3 days, however, Rosenthal et al. showed that 2% chlorhexidineshowedprolong antimicrobial activity in endodontics for 3 months[18,19].

2% chlorhexidinewith normal saline proven to be good irrigant because of antibacterial action, dissolution of granulation tissues, cleaning of root canals and non-toxic for endodontic tissues. 2% chlorhexidineused without saline is not proven to be good irrigant for dissolving organic matter[18-20].

There are several limitations of this study such as small sample size and single centric study, however, within these limitations the results showed that chlorhexidine solution (2%) was found to be effective for pain control while endodontic treatment.

CONCLUSION

Chlorhexidine solution (2%) was found to be effective for pain control while endodontic treatment.

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