

## CHAPTER IV

### RESULTS

Data of glucose concentration (mM) that leaked through the filled root canals were not normally distributed. Therefore, they were statistically analyzed by the nonparametric test (Friedmann test and Kruskal-Wallis test).

In positive control group, glucose leakage was detected from the first day which increased over times. In negative control group, glucose leakage could not be detected in all apical reservoirs throughout the experiment (Fig. 17).

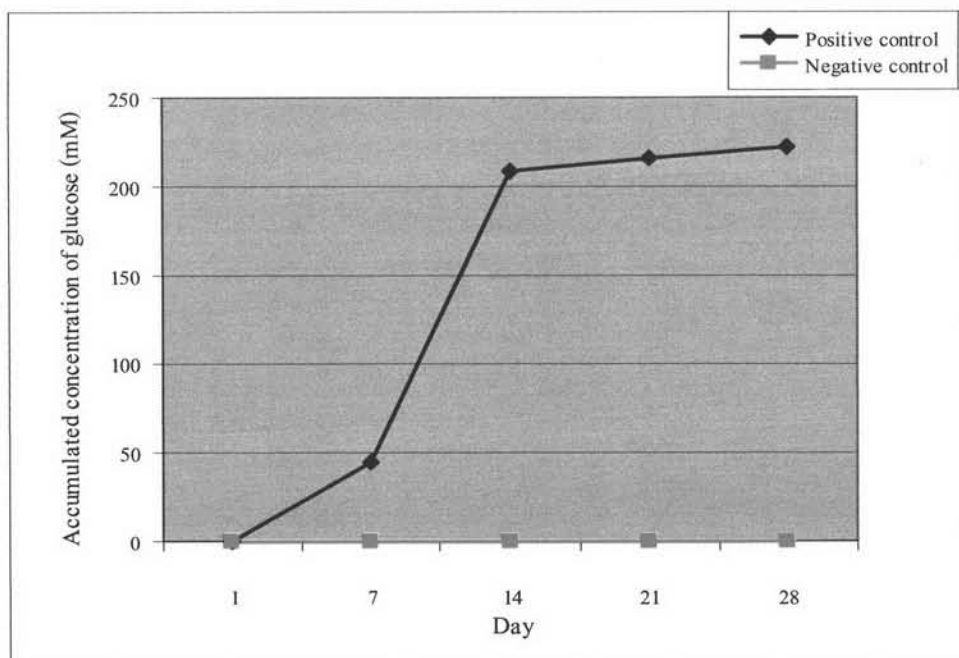


Fig. 17 Accumulated concentration of glucose in positive and negative control groups. The positive control group showed higher values of glucose leakage at all time intervals. The negative control group showed no leakage.

Descriptive statistical data of leakage amount of glucose concentration measured in all experimental groups at each time intervals were shown in Table 5. Each experimental group showed the increasing glucose leakage concentration from the beginning to the end of experimental period. The increasing glucose concentration values among each time intervals in the same experimental group were statistically significant difference when compared using Friedmann test ( $p < 0.05$ ). However, no statistically significant differences were found among the three experimental groups at each time interval (1, 7, 14, 21 and 28 days) when compared by using Kruskal-Wallis test ( $p > 0.05$ ).

**Table 5** Leakage amount of glucose concentration (mM) in three experimental groups at each times interval after obturation.

Groups		Glucose concentration mM				
		Day 1	Day 7	Day 14	Day 21	Day 28
Group1 (sterile water)	Mean $\pm$ SD	0.11 $\pm$ 0.35	3.01 $\pm$ 7.32	4.96 $\pm$ 9.05	7.78 $\pm$ 13.65	10.74 $\pm$ 18.28
	Median	0	0.04	0.57	1.07	1.32
	Min-Max	0-1.51	0-31.62	0-28.16	0-43.42	0-61.82
Group2 (2%CHX)	Mean $\pm$ SD	0.33 $\pm$ 0.99	0.62 $\pm$ 1.45	1.47 $\pm$ 3.90	2.18 $\pm$ 6.31	3.07 $\pm$ 9.09
	Median	0	0	0.01	0.10	0.20
	Min-Max	0-3.56	0-4.23	0-17.02	0-28.32	0-41.03
Group3 (2.5%NaOCl, 2%CHX)	Mean $\pm$ SD	0.76 $\pm$ 2.22	2.03 $\pm$ 4.44	5.39 $\pm$ 10.31	7.47 $\pm$ 12.97	9.90 $\pm$ 16.51
	Median	0	0	0.69	1.48	2.04
	Min-Max	0-8.96	0-14.58	0-36.90	0-44.16	0-54.64

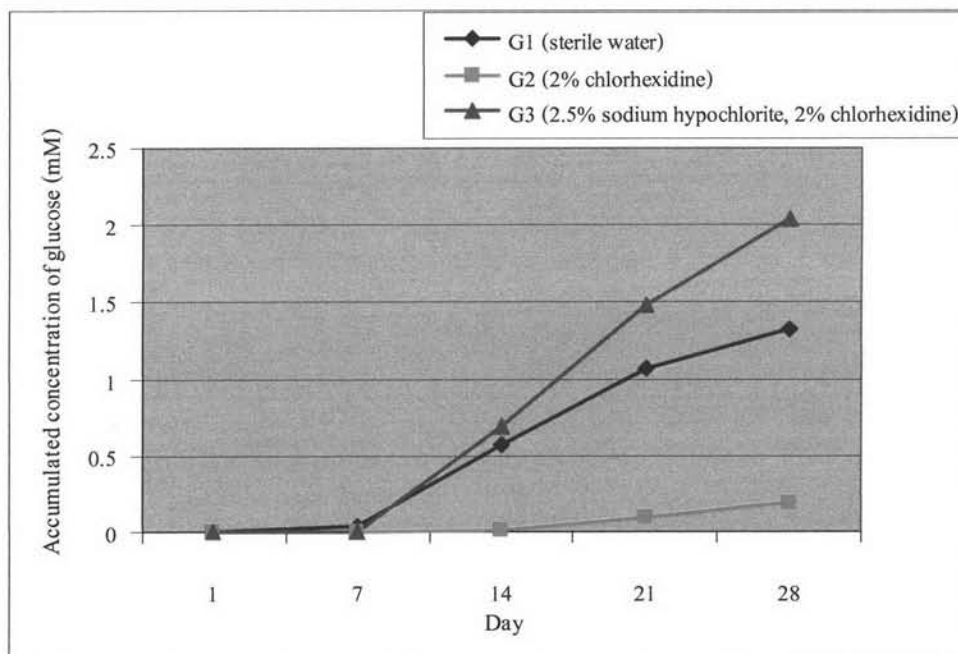


Fig. 18 Median of glucose leakage concentration (mM) in three experimental groups at each time interval after obturation.

The experimental groups could be detected glucose leakage concentration from the beginning to the end of experimental period were shown in Figure 18. In group 3, there was more glucose leakage concentration at the end of experimental period when compared with group 1 and group 2. In group 2, there was less glucose leakage concentration at the end of experimental period when compared with other experimental groups.

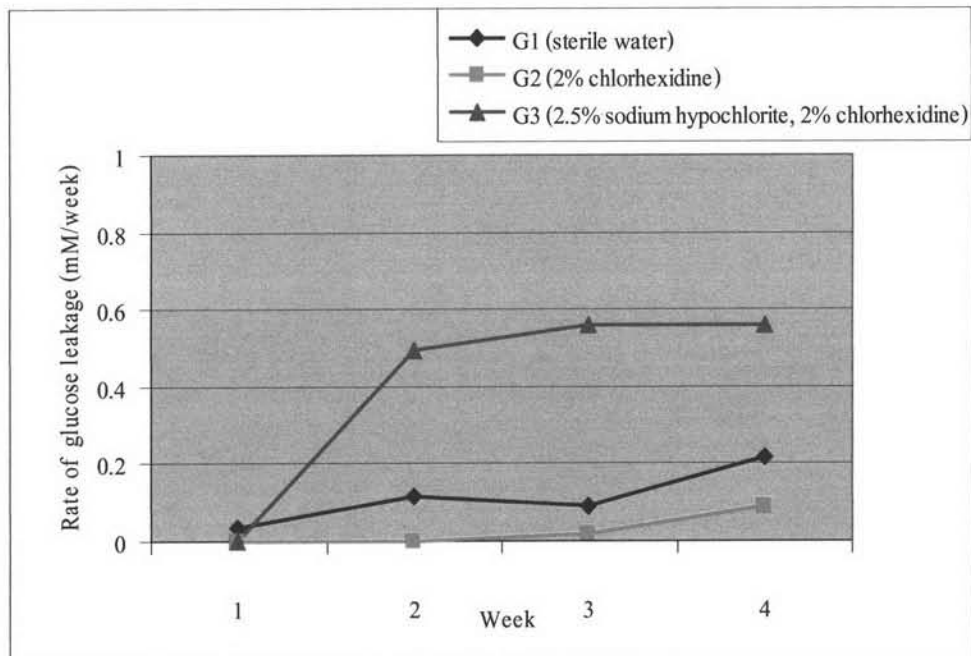


Fig. 19 Rates of glucose leakage (mM/week) in three experimental groups at 1, 2, 3 and 4 weeks.

The rates of glucose leakage concentration (mM/week) among each experimental group were shown in Figure 19. In group 1 and 2, the rate of leakage was gradually increased except in third week, the rate of leakage in group 1 was slightly decreasing. In group 3, rate of glucose leakage in second week of experiment was more increasing as compared with other experimental groups. But it became stable after second week until the end of the experiment. However, the rate of glucose leakage concentration among each time interval and each experimental group were not statistically significantly different by using Kruskal-Wallis test ( $p > 0.05$ ).