



RANGSIT UNIVERSITY

COMPARISON OF BLOOD PRESSURE AND PULSE RATE IN HYPERTENSIVE PATIENT FOLLOWING THE INJECTION OF 4% ARTICAININE WITH EPINEPHRINE 1:100,000 AND 1:200,000



Research Outcome

INTRODUCTION

Vasoconstrictor agents in local anesthetic contributed to many beneficial effects such as depth and duration of the anesthetic, decreasing systemic toxicity, and increasing hemostasis during surgery. Thus, the most common vasoconstrictor agent used in conjunction with articaine is epinephrine.

KEY WORDS: Blood pressure, Epinephrine, Hypertension, Pulse rate

OBJECTIVE

The aim of this research was to study the alterations of blood pressure and pulse rate after the injection of 4% articaine with epinephrine 1:100,000 and 1:200,000.



METHODOLOGY

1 Divided patients randomly to 2 groups

Group 1: received 1 cartridge(1.7ml.) of 4% articaine with epinephrine 1:100,000

Group 2: received 1 cartridge(1.7ml.) of 4% articaine with epinephrine 1:200,000

2 1st measurement

T0: Blood pressure and pulse rate monitor 5 minutes before injection

3 2nd measurement

T1: Immediately after administration of local anesthetic

The NRS score

4 3rd measurement

T2: 5 minutes after injection

5 4th measurement

T3: 10 minutes after injection

6 5th measurement

T4: 15 minutes after injection

DATA ANALYSIS

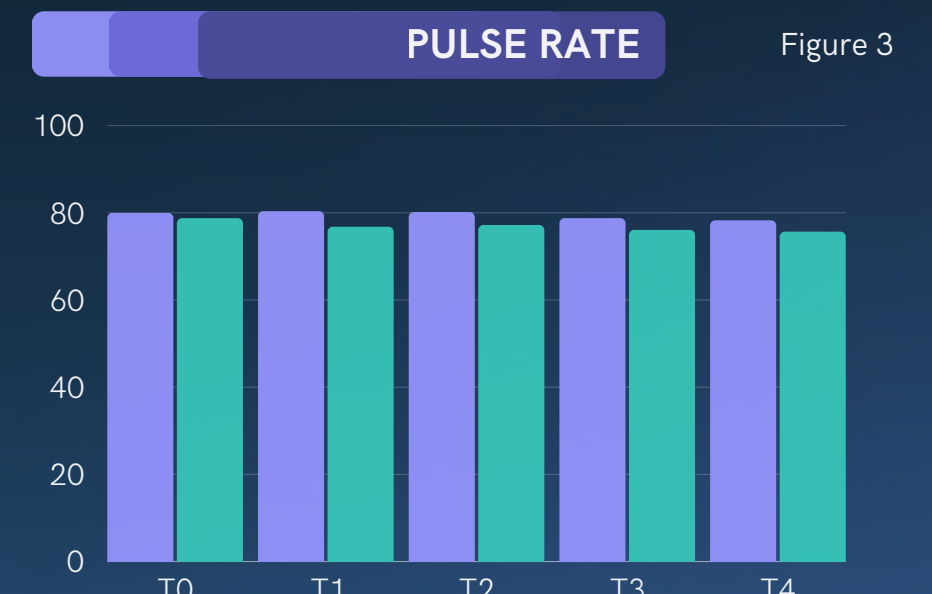
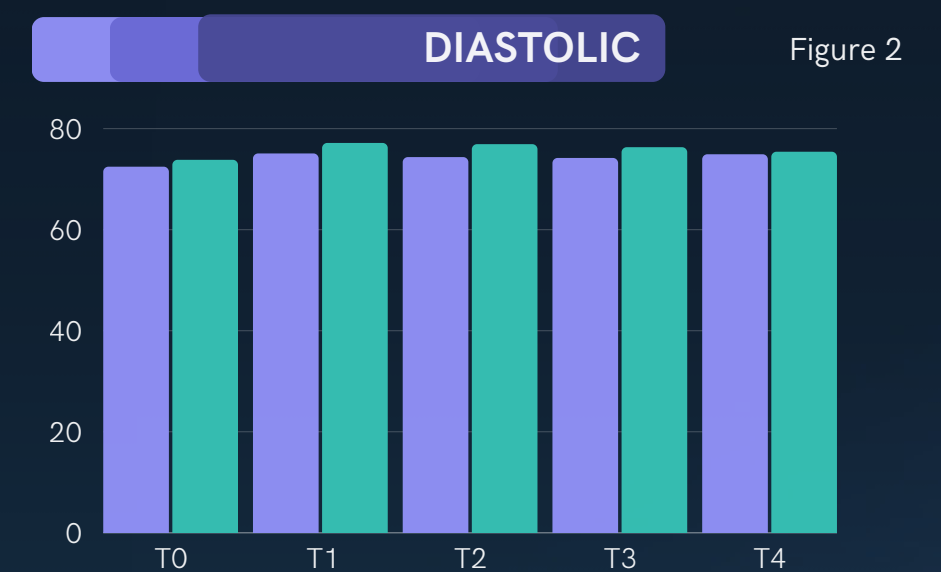
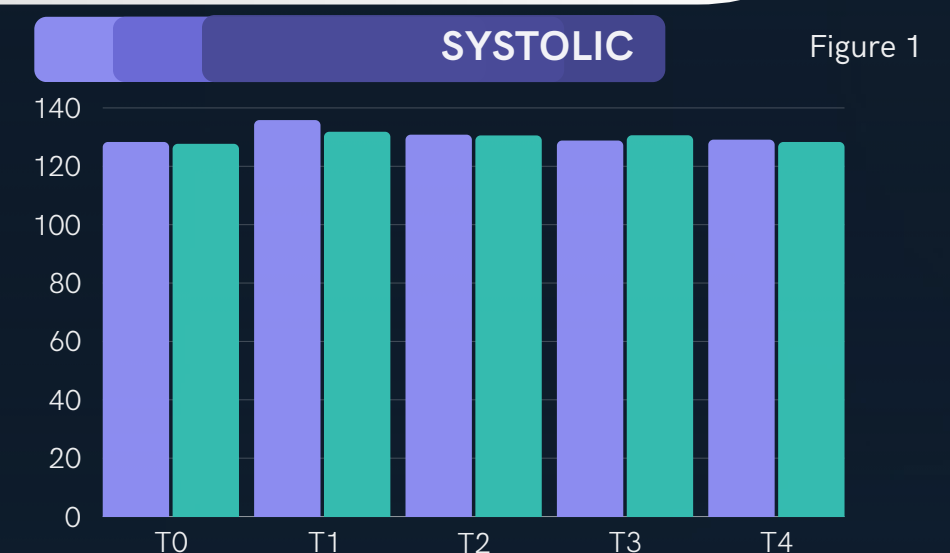
GPower 3.1.9.7, Shapiro-Wilk with Normality test, Independent t-test, Mann-Whitney U test and Friedman test with p -value < 0.05

RESULT

There were no statistically significant differences in the same collecting time. The SBP and DBP increased maximally at T1, related to the onset of epinephrine, which is approximately 1-2 minutes. (Figures 1 and 2)

There were no statistically significant differences in the same collecting time. The PR after injection with epinephrine 1:100,000 increased maximally at T1 but after injection with epinephrine 1:200,000 increased maximally at T2. (Figure 3)

The alteration of blood pressure and pulse rate compared to baseline (T0) found that the means of mean difference of SBP, DBP, and PR in each group showed no statistically significant differences.



CONCLUSION

Both 4% articaine with epinephrine 1:100,000 and 1:200,000 had **no statistically significant differences** in hemodynamic changes.

CLINICAL SIGNIFICANT

As a consequence of the effects of epinephrine even if both 4% articaine with epinephrine 1:100,000 and 1:200,000 had **no statistically significant differences** in hemodynamic changes, monitoring the patient immediately until 15 minutes after local anesthetic injection with vasoconstrictor is very necessary.

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