

# LIDOCAINE OR DIAZEPAM CAN DECREASE FASCICULATION INDUCED BY SUCCINYLBCHOLINE DURING INDUCTION OF ANESTHESIA

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## Abstract

Succinylcholine is used during induction of anesthesia, and it may induce fasciculations.

In this study we demonstrated that intravenous diazepam (1 mg/kg) or lidocaine (1.5 mg/kg) can decrease fasciculations induced by succinylcholine. There is no significant difference between these two drugs in reducing fasciculations moreover, these drugs can also prevent raised blood pressure and heart rate during intubation.

## Introduction

Succinylcholine is used during induction of anesthesia to facilitate intubation and minimize the incidence of aspiration, but it may cause fasciculations, raised intracranial and intraocular pressure<sup>1,2,3,4</sup>. Gallamine is advocated in order to decrease these side effects but it may increase blood pressure and heart rate.

This study was conducted to assess the effect of lidocaine or diazepam on fasciculation induced by succinylcholine.

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## Materials and Methods

This is a prospective controlled study in which 40 patients between 20-40 years were randomly divided into two groups. All patients were ASA class I and had elective surgery. Informed consent was obtained from all patients.

In the first group we used diazepam 1 mg/kg six minutes before intubation. In the second group lidocaine 1.5 mg/kg was administered intravenously 90 seconds before intubation.

Fasciculation was determined by observing patient's trunk and limbs. It was scored as follows:

- 0: no fasciculation
- 1: mild fasciculations not easily seen
- 2: moderate fasciculations and easily seen
- 3: wide spread fasciculations

Blood pressure and heart rate were recorded automatically before and after intubation. Mann-Whitney U test was used for comparing primary endpoints and Student-t-test for blood pressure.

## Results

Defasciculation was observed in about 35% of patients in both groups. In the first group (diazepam), there was increased blood pressure in 2.4% and heart rate in 12.9% of patients. In the second group (lidocaine), there was increase in blood pressure in 14.7% and heart rate in 11% of patients.

Comparing these findings with statistical tests showed no significant difference in both the reduction of blood pressure ( $p = 1.2$ ) and heart rate ( $p = 1$ ) between these two drugs during intubation. We did not have any control placebo receiving group because our main aim was to compare these two drugs with each other and it was not ethical to deprive the patient from any drug when the patient developed fasciculation.

## Conclusions

Diazepam or lidocaine can properly decrease fasciculation induced by succinylcholine during induction of anesthesia, prevent raised blood pressure and heart rate due to intubation. No significant difference between the two drugs was noted.

## References

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