ORIGINAL ARTICLE

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The Effect of Lidocaine Administration during General Anesthesia on Glasgow Prognostic Scores in Breast Cancer Surgery Candidates

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Abstract

Introduction: Intravenous lidocaine has anti-inflammatory role and analgesic properties, and is able to reduce the need for opioids during and after surgery. This study was conducted with the aim of evaluating the effect of intravenous (IV) lidocaine infusion during general anesthesia on levels of inflammatory factors according to Glasgow prognostic score in breast cancer surgery candidates.

Methods: The present study is a randomized clinical trial. 63 patients with breast cancer, who were candidates of mastectomy elective surgery, were included. The patients were allocated to 2 groups using a random numbers table. After inducing anesthesia similarly for all the patients using midazolam 0.02 mg/kg, fentanyl 2-4 µg/kg, propofol 1-2 mg/kg and atracurium 0.5 mg/kg, the first group received 1.5 mg/kg/hr IV lidocaine and in the second group, the same volume of normal saline was infused intravenously. Glasgow prognostic score was calculated before surgery and also 6, 24, and 48 hours and 14 days after surgery. Required data were gathered via a checklist. To statistically analyze the data, SPSS software version 20 was used. To compare qualitative variables, Fisher's exact test, and to compare means of quantitative data, independent t-test was applied. In addition, for comparing C reactive protein, albumin, and Glasgow prognostic score measures between the 2 groups; generalized mixed model regression analysis was used. Significance level was considered to be $p<0.05$.

Results: A total of 63 women with breast cancer, with the mean age of 49.25 ± 9.32 years, were included. 28 of them were allocated to lidocaine group and 35 were in the control group. Mean age was 48.61 ± 9.26 years in lidocaine group and 49.89 ± 9.38 years in control group ($p=0.591$). Additionally, there was no statistically significant difference between the 2 groups regarding incision size ($p=1.000$) and duration of surgery ($p=0.752$). Using mixed model regression analysis and after adjusting the effect of baseline measures of variables, a significant difference was not detected between the groups regarding their Glasgow prognostic score during the follow-up time ($p=0.122$).

Conclusion: Based on the results of this study, IV infusion of lidocaine during general anesthesia did not have a significant effect on the level of inflammatory factors according to Glasgow prognostic score in patients who were candidates of breast cancer surgery.

Keywords: Breast Neoplasms, Anesthesia, General, Lidocaine, Prognosis.

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