Original Paper

Effect of lidocaine on duration of seizure and hemodynamic alterations in electroconvulsive therapy

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Abstract

Background and Objective: Electroconvulsive therapy (ECT) is one of the most common methods in treatment of different types of psychological disorder. The effectiveness of this therapy has a direct relation with the duration of convulsion. This study was conducted to assess the effect of lidocaine on duration of seizure and hemodynamic alterations in electroconvulsive therapy.

Materials and Methods: This clinical trial study was conducted on 72 ASA-I, II patients with psychotic disorders in Hajar Medical Center in Shahrekord, Iran during 2010. The patients randomly divided into intervention and control group. The interventional group was received 1.5 mg/kg lidocaine and controls were received normal saline. For induction of anesthesia, all patients were received Sodium Thiopental (2mg/kg), Succinylcholine (1mg/kg) and Atropine (0.5mg) Propofol and Succinylcholine during 72 sessions of ECT. Duration of objective convulsion and hemodynamic alterations including blood pressure and heart rate were recorded (before, immediately and 3, 5 minutes after ECT). Data were analyzed using SPSS-11.5 and t-test.

Results: Systolic and diastolic blood pressures and heart rate in 3rd minutes in interventional group following electroconvulsive therapy were 143.38±16 mmHg, 79.86±6.7 mmHg, 91.9±9.9 mmHg, respectively and in controls were 128.88±13.04 mmHg, 87.63±5.79 mmHg and 102.86±13 mmHg, respectively. These difference were significant ($P<0.05$). The above-mentioned indices for 5th minutes in intervention and controls were as follow: systolic (113.47±9.97 mmHg, 122.36±13 mmHg), diastolic (73.47±4.27 mmHg, 77.63±6.26 mmHg) heart rate (84.41±4.6 in minute, 93.19±12.53 in minute). These differences in above indices were significant ($P<0.05$).

Conclusion: This study showed that lidocaine administration during electroconvulsive therapy increase the duration of convulsion and reduces heart rate and blood pressure.

Keywords: Electroconvulsive therapy, Lidocaine, Convulsion, Blood pressure, Heart rate

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