Evaluation of intravenous magnesium sulphate in clinical improvement of patients, with acute stroke, in Alavi hospital

Abstract

Background

This study evaluated the effect of intravenous magnesium sulphate in clinical improvement of the patients with acute stroke. In various studies, there is a lot of information about the use of magnesium sulphate in different conditions of brain ischemia. While neuroprotective effects of magnesium sulphate as a neuroprotective agent have been demonstrated in focal and global brain ischaemies in animal models, but the effect of this agent is still unclear.

Methods

80 patients (in this study, 47 percent of patients was female and 53 percent was male) with acute ischemic stroke signs and symptoms lasting less than 12 hours were included in the study and were divided into two groups, 40 patients received 4 g of MgSO$_4$ over 15 minutes and then 16 g over the next 24 hours, and 40 patients were received placebo.

Results

The results showed that the rate of clinical improvement was better in group with magnesium sulphate, than the control group. In the group with magnesium sulphate, the numbers of patients with Grade III decreased and the numbers of patient with Grade II, I increased. After 2 weeks in this group the numbers of patients with Grade III, decreased to 12.5% and the numbers of patients with Grade II and I, increased to 50% and 37.5%. The most correlation of magnesium sulphate was associated with improvement of upper and lower muscle forces and aphasia and level of consciousness of the patients.

Conclusion

According to this study, magnesium sulphate, can be used as a neuroprotective agent in patients with acute stroke.

Key words: magnesium sulphate, stroke, neuroprotective