Effects of sevoflurane anesthesia in different depths on postoperative stress reaction and serum excitatory amino acids, S-100β, NSE

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View from specialist: It is creative, and of certain scientific and educational value.

[ABSTRACT] Objective: To study the effects of sevoflurane anesthesia in different depths on postoperative stress reaction and serum excitatory amino acids, S-100β, NSE. Methods: A total of 120 patients received intravenous inhalational anesthesia in our hospital from 2013 April to 2014 May were enrolled and randomly divided into two groups according to different sevoflurane anesthesia depth. Observation group received high concentrations of sevoflurane anesthesia (BIS=35-45), control group received low concentration of sevoflurane anesthesia (BIS=50-60). Then postoperative stress reaction and serum excitatory amino acids, S-100β, NSE content were compared. Results: Cor, NE, E content of observation group were lower than those of control group. Serum Glu, Asp, Gly content of observation group were lower than those of control group. Serum S-100β, NSE content of observation group were lower than those of control group. Conclusions: High concentration of sevoflurane anesthesia (BIS value 35-45) is helpful to relieve postoperative stress reaction, reduce nerve cells damage, reduce excitatory amino acids, S-100β and NSE contents. It’s an ideal sevoflurane anesthesia depth.

[KEY WORDS] Sevoflurane; Postoperative cognitive dysfunction; Stress; Excitatory amino acids; Neuron specific enolase; S-100 protein