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Intentional normothermia used by intravascular cooling system for severe Brain Injury: A retrospective study

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Aim: Acute hyperthermia of severe brain injury causes secondary brain injury and aggravate outcome of patients. Therefore, maintenance of normothermia is recommended for severe brain injury in the acute phase. Therefore, we use cooling blanket (CB) for maintenance of normothermia in Japan. Aim of this study is to report that maintenance of normothermia by intravascular cooling system (ICS) for severe brain injury in the acute phase and compare the effect of ICS with CB.

Method: Six patients with severe brain injury were given normothermia after soon surgery from January 2016 to Nov 2016.

Result: Two cases were maintained by CB and four cases were maintained by ICS. All cases were given craniotomy for removal intracranial hematoma. Average GCS in-hospital of CB group was five and that of ICS group was 6.25. Average time-to-target temperature of CB group was 305 minutes and that of ICS group was 103.5 minutes ($p < 0.01$). Patient's temperature of ICS group was more comfortable than that of CG group. GOS was not significantly different between groups (GOS of CB group was 3.5 and that of ICS group was 2.5).

Discussion: ICS has the potential of effective temperature control system because it is able to get target temperature quickly and effectively. On the other hand, it has the risk of complication; for example, infection and clot formation and so on. We need to accumulate more cases to find ICS to be effective.

Biography

Junzo Nakao has completed his PhD at University of Tsukuba, Japan. He has his expertise in Neurotrauma and Neurointensive Care. He has published more than five papers in reputed journals.

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