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**Abstract no 107**

**Title** : THE LITERATURE REVIEW OF FLUID RESUSCITATION FOR TRAUMATIC BRAIN INJURY

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**Background**

Traumatic Brain Injury (TBI) is the leading cause of death and disability at age 1 to 45 years, especially in the case of trauma with hemorrhagic shock. The high mortality in TBI is because of complex fluid management since TBI cases are accompanied by hypovolemic shock characterized by hypotension. Parenteral fluid therapy in patients with hypotension because of TBI may cause cerebral edema, increased intracranial pressure, neurological dysfunction or secondary trauma. There are several options for fluid resuscitation in patients with TBI but is still debated, both in the form of type (crystalloid or colloid) or tonicity (isotonic or hypertonic).

**Objective**

The aim of this study was to determine the type and amount of fluid that necessary when TBI is accompanied by hypovolemic shock

**Methods**

The method used in this study was literature review through collecting and analyzing article related to fluid resuscitation in head trauma. The articles collected with electronic databases retrieved by EBSCO, Proquest and Clinicalkey and using keyword appreciative fluid resuscitation and head trauma and TBI. The criteria of the articles were published in the period of 2005-2014.

**Results**

Hypertonic saline (HS) was an effective fluid therapy to reduce intracranial Pressure (ICP) compared to mannitol, normal saline (NS), colloidal or fresh frozen plasma (FFP). Using 3% HS 300 ml / 20 min with rapid infusion and observation at the end of the administration every hour can reduce cerebral blood flow (CBF), ICP, blood pressure, end tidal carbon dioxide and HR. Alternative way to reduce mortality and morbidity is to give HS in daily and quickly. This is the safe way to decreasing complication and makes a better outcome

**Discussion**

It needs to be developed further research on the effects of HS on cerebral edema, the myelinolysis risk of rebound effect of increasing ICP and metabolic acidosis

**Conclusion**

HS is more effectif to be used in fluid resuscitation in TBI patients with hypovolemic shock compared with other.

**Keyword:** fluid resuscitation, head trauma, trauma brain injury

