

## Fever in patients with spontaneous Intracerebral Hemorrhage: Prevalence and outcomes

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### Introduction:

Spontaneous intracerebral hemorrhage is a non-traumatic bleeding in the brain parenchyma, and it is the second most common subtype of stroke. An intracerebral hemorrhage occurs proximity to the surface or into the depth of the brain. In rare cases the deep hemorrhages can reach into the ventricles located in the center of the brain. Obstruction in the circulation of cerebrospinal fluid enlarges the hydrocephalus and causes lethargy, confusion and loss of consciousness. Central fever was considered a poor prognostic factor in patients with intracerebral hemorrhage and is associated with increased mortality rates and poor outcomes. Tumours with infundibular differentiation

### Objective:

To determine the effect of fever on the neurologic outcomes of patients with intracerebral hemorrhage.

### Methods:

This is an observational cross-sectional study using probability sampling. A sample size of 323 yielded a 95% CI with a 5% margin of error. Data were analyzed using descriptive statistics. The relationship between the location and volume of the hemorrhage with the outcome of patients who developed central fever was determined using ANOVA. P-value was set at  $\leq 0.01$ .

### Results:

Twenty eight percent had infectious fever while the remaining 72% had a central cause. 99 patients had severe strokes involving the basal ganglia (39%) followed by the thalamus (23%). Using ANOVA, a statistically significant relationship existed between hemorrhage involving the pons (p value=0.001) and basal ganglia (p value=0.001). The relationship between poor neurologic outcome with that of a  $\geq 30$ cc hemorrhage (p value=0.000) or a bleed of  $< 30$ cc (p value=0.000) were both statistically significant. There is also a significant relationship between poor outcomes among those with central fever with (p value=0.000) or without (p value=0.000) intraventricular involvement.

### Conclusion:

Central fever negatively impacts outcome in pontine and basal ganglia hemorrhages within the 24, 48 and 72 hours upon admission. Central fever also leads to poor neurologic outcome regardless of intraventricular involvement and volume of the hemorrhage