

## **MAXIMUM SYSTOLIC BLOOD PRESSURE IS ASSOCIATED WITH IN-HOSPITAL MORTALITY OF INTRACEREBRAL HEMORRHAGE**

Osamu Takahashi <sup>1)</sup>, MD, MPH, Tsukasa Nakamura, MD <sup>2)</sup>, Jun Saito, MD <sup>3)</sup>, Fusao Ikawa, MD <sup>4)</sup>, Tsuguya Fukui <sup>5)</sup>, MD, MPH

- 1) Department of Internal Medicine, St. Luke's International Hospital, Tokyo, Japan
- 2) Department of General Medicine, Shimane Prefectural Central Hospital, Izumo, Japan
- 3) Department of Neurology, Shimane Prefectural Central Hospital, Izumo, Japan
- 4) Department of Neurosurgery, Shimane Prefectural Central Hospital, Izumo, Japan
- 5) St. Luke's International Hospital, Tokyo, Japan

**BACKGROUND:** The management of blood pressure for the patients in the acute phase of intracerebral hemorrhage remains unclear.

**AIM:** Our purpose was to investigate the association of maximum systolic blood pressure (SBP) on the first day with in-hospital mortality of patients with intracerebral hemorrhage.

**METHODS:** We collected information on spontaneous ICH patients hospitalized within 24 hours from symptom onset in a teaching hospital in Japan from August 1998 to December 2001. All variables were obtained from data available on admission and on the first day. We defined maximum SBP as the highest value of SBP on the first day. We used the logistic-regression to study the association between maximum SBP and in-hospital mortality of patients with intracerebral hemorrhage.

**RESULTS:** Three hundred seven consecutive patients were admitted to our hospital with acute spontaneous ICH. A U-shaped effect was observed. Compared with patients with a maximum SBP of 160 to 180 mmHg (reference group), the multivariate odds ratios for in-hospital mortality were 4.0 [95% confidence interval (CI) 1.1-15.2] for a maximum SBP of less than 160, 2.0 (95%CI 0.5-7.8) for a maximum SBP of 181 to 200 mmHg, and 3.9 (95% CI 1.1-13.9) for a maximum SBP of more than 200 mmHg.

**CONCLUSIONS:** High (> 200 mmHg) and low (<160 mmHg) maximum systolic blood pressure on the first day are associated with increased in-hospital mortality in patients with intracerebral hemorrhage.

**Keyword:** Intracerebral hemorrhage, mortality, blood pressure