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**THE RELATIONSHIP BETWEEN EARLY BLOOD PRESSURE VARIABILITY AND SHORT-TERM PROGNOSIS IN SEVERE TRAUMATIC BRAIN INJURY PATIENTS**

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**Objectives** To study the correlation of early blood pressure variability and short-term prognosis in severe traumatic brain injury patients without previous hypertension history.

**Methods** 107 patients with severe traumatic brain injury were analysed retrospectively in our hospital from January 2007 to March 2011. The mean blood pressure, blood pressure variability (SD, coefficient of variability: SD/mean) in those with comatose (GCS 3–8) during the first 24 h after trauma were investigated in 3 days after operation and Glasgow Outcome Scale were evaluated after 6 months. According to the Glasgow Outcome Scale, all the patients were divided into two groups, Group A, good prognosis (GOS 1–3) and Group B, poor prognosis (GOS 4–5).

**Results**

1. There were older ages, lower GCS and APACHE II Scale, higher SD (SD) of systolic pressure and diastolic pressure and higher coefficient of variability (CV) of systolic pressure within 72 h in Group A than those in Group B ( $p < 0.01$ ).
2. Logistic regression analysis revealed that: (1) lower APACHE II Scale, type of traumatic brain injury and higher coefficient of variability (CV) of systolic pressure within 72 h were risk factors for prognosis in Model One. The ROC Curve revealed that the cut-off value for CV of Sp was 0.1146; the correct index, sensitivity and specificity were 69.3%, 80.6% and 88.7%. (2) lower APACHE II Scale, type of traumatic brain injury and higher SD of systolic pressure within 72 h were risk factors for prognosis in Model Two. The ROC Curve revealed that the cut-off value for SD of Sp was 14.1320; the correct index, sensitivity and specificity were 72.0%, 83.3% and 88.7%.

**Conclusions** The old age, low APACHE II Scale, type of traumatic brain injury and high systolic pressure variability are the risk factors for prognosis in severe traumatic brain injury patients without previous hypertension history, among which the variability of systolic pressure plays the most important role. 2. The patients with coefficient of variability (CV) of systolic pressure over 0.1146 or SD of systolic pressure over 14.1320 within 72 h would suffer from poorer prognosis.