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Predictive factors of mortality for primary pontine haemorrhage in an Asian populationSurentheran S¹, Thangaraj Munusamy^{1,2}, Surentheran S¹, Aisyah Nasir², Boon Chuan Pang¹, Eugene Yang¹ and Ramez Kirollos^{1,2}¹Khoo Teck Puat Hospital, Singapore²Cambridge University Hospitals NHS Foundation Trust, UK

Aim: Primary pontine haemorrhage is the most devastating form of haemorrhage stroke accounting for about 10% of intra-cerebral haemorrhages with an overall mortality rate of 40-50% as reported in the literature. There are various factors reported to have an association with outcome such as Glasgow Coma Scale score, clot location, clot volume, age and history of hypertension. In our study, we analyzed the correlation between outcome, clinical and radiological parameters to determine the predictive factors and prognosis in primary pontine haemorrhage.

Methods: We retrospectively reviewed the clinical data of 47 patients admitted to Khoo Teck Puat Hospital, Singapore with a confirmed radiological and clinical diagnosis of primary pontine haemorrhage from 2009 to 2015. Patient demographics, Glasgow Coma Scale scores, clinical and radiological parameters and outcomes were recorded. Subsequently, predictive factors of mortality were identified by statistical analyses. We also analyzed the correlation between acute blood pressure lowering and mortality.

Results: Out of the 47 patients, 31 were men. Overall 30-days mortality rate was 25.5%. Positive predictive factor of 48-hours mortality was mean systolic blood pressure of 160 mmHg or above in the first 48 hours of admission (grade two and three hypertension). Positive predictive factor of 30-days mortality was Glasgow Coma Scale score of eight or less on arrival. Lowering of mean systolic blood pressure by 20% or more in the first 48 hours correlates with reduction in 48-hours and 30-days mortalities.

Conclusion: The overall 30-days mortality rate of 25.5% for patients with primary pontine haemorrhage in our study population is better than that reported in the literature. We attribute this to acute reduction of mean systolic blood pressure by 20% or more in the first 48 hours of admission. Persistently raised mean systolic blood pressure in the first 48 hours and Glasgow Coma Scale score of eight or less on arrival are positive predictors of mortality in primary pontine haemorrhage.

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