

Early Prognostication Tool For Patients At Risk Of Cerebral Infarction After Anterior Circulation Aneurysm Rupture

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Purpose

Cerebral infarction(CI) causes poor outcome after aneurysmal subarachnoid haemorrhage(SAH) and is secondary to multiple factors. This necessitates a simple prediction model for establishing high risk group patients for early preventive treatment of CI.

Methods

All anterior circulation aneurysm rupture patients with SAH who were surgically clipped in Hospital Queen Elizabeth 2 from 1st July,2014 to 31st January,2018 were retrospectively analysed. Significant predictors for CI after multivariate analysis were used to develop the PARCI score and was also internally validated. Patient risk groups for developing CI were derived from this validation and was correlated with mRS score at the time of discharge.

Results

200 patients were included after applying strict exclusion criteria and also excluding missing data. Median age of patients were 51 years with 59.5% female. Multivariate analysis proved only four out of the nine predictors were significant for developing CI when other factors were adjusted which are female gender, hydrocephalus requiring CSF diversion, poor Fischer score and poor WFNS score. These were used for the development of PARCI score. This highly predictive score was internally validated as the sole predictor of CI after aneurysmal SAH and associated mRS score at discharge which showed high significance with a p-value of <0.0001.

Conclusion

Higher PARCI score is directly associated with higher risk of CI and poorer mRS score at discharge. It is a simple and reliable tool which is accurate for early identification of patients at risk of CI after aneurysmal SAH.