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Who Does Better After Inpatient Rehabilitation? A Comparative Study Of Functional Predictors And Outcomes Between Ischaemic And Haemorrhagic Strokes After Inpatient Stroke Rehabilitation

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Introduction/Objectives

Mixed functional outcomes have been reported following stroke inpatient rehabilitation when comparing cerebral infarctions (CI) and intracerebral haemorrhages (ICH). The aims of this study were to compare rehabilitation outcomes between CI and ICH patients and ascertain factors associated with discharge functional outcomes.

Materials and Methods

A retrospective analysis of stroke patients who underwent inpatient rehabilitation at a tertiary rehabilitation centre (n = 280) was conducted. Primary outcome measures included discharge Functional Independence Measure (FIM), FIM gain and FIM efficiency. Demographic information, stroke characteristics, motor impairments (Fugl Meyer Assessment-FMA score) and complications were collected as functional predictors.

Results

There were significant improvements in pre/post-rehabilitation score such as FIM, FIM gain, and FMA ($P < 0.001$). While ICH patients had significantly lower admission FIM compared to CI (74 CI vs 67 ICH, $P = 0.006$), there were no significant differences in discharge FIM scores between the 2 groups (99 CI vs 94 ICH, $P = 0.259$). ICH patients tended to achieve higher FIM gains (27 vs 21, $P = 0.05$) with similar FIM efficiency (0.86 vs 0.83, $P = 0.517$) Using linear regression, admission FIM, Trunk impairment scale and ICH subtype were positive predictors of discharge FIM, while age, unemployment and female gender were negative predictors ($R^2 = 0.760$, $P < 0.001$).

Conclusion

Although admission FIM is a major predictor of post-rehabilitation discharge outcome, stroke subtype is also important. Despite a significantly lower admission FIM of 7 points and higher complexity, ICH patients achieved better discharge FIM, hence they should not be denied inpatient rehabilitation.