

The INCEPT Study: Impact of Post-Traumatic Cerebral Infarction



Post-traumatic cerebral infarction (PTCI) is common after traumatic brain injury (TBI). TBI is a leading cause of mortality and morbidity mostly among young people, but its incidence is also increasing in older people, particularly in high-income countries. The outcome of a TBI depends on several factors, including patient characteristics, disease severity, and complications arising during its clinical course.

It is unclear what the occurrence of a PTCI is, how it impacts the long-term outcome, and whether it adds incremental prognostic value to established outcome predictors.

A study was conducted with moderate and severe TBI patients. The primary objective was to evaluate if PTCI was an independent risk factor for the 6-month outcome assessed with the Glasgow Outcome Scale (GOS). The researchers also assessed the PTCI occurrence and if it adds incremental value to the International Mission for Prognosis and Clinical Trial design in TBI (IMPACT) core and extended models.

143 patients were enrolled in the study, of whom 47 (32.9%) developed a PTCI. In the multiple ordered logistic regression, PTCI was retained in both the core and extended IMPACT models as an independent predictor of the GOS. The predictive performances increased significantly when PTCI was added to the IMPACT core model and extended model. Patients with PTCI showed higher ICU mortality and 6-month mortality, whereas hospital mortality did not differ between the two groups.

PTCI is a common complication in patients suffering from a moderate or severe TBI and is an independent risk factor for long-term disability. It was also confirmed that PTCI is a frequent complication occurring in more than one-third of patients suffering severe or moderate TBI. Most of the PTCIs were territorial, affecting one or more cerebral artery territories, and developed early during the ICU stay.

Source: [Critical Care](#)
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