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Advantage of Helicopter Emergency Medical Services (HEMS) for patients with traumatic brain injury

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Objective
To assess the advantages of Helicopter Emergency Medical Services (HEMS) for neurological and functional recovery in patients with traumatic brain injury (TBI).

Method
We retrospectively assessed eighty-five TBI patients who finally admitted to a rehabilitation unit during recent 2 years. TBI patients were divided into two groups by transport Methods; HEMS or not. All subjects' initial trauma severity, mental status, cognition, and functional status were assessed. In emergency room, injury severity score (ISS), Glasgow coma scale (GCS) and revised trauma score (RTS) were evaluated initially, and Korean version of Modified Barthel Index (K-MBI), Functional Independence Measure (FIM), Korean version of Mini-Mental State Examination (K-MMSE), and Glasgow outcome scale (GOS) were evaluated in the rehabilitation unit at admission and just before discharge.

Results
Among 85 patients, 10 patients were transported by HEMS, and 75 patients came to emergency room with other transportation. The initial subscore indicating systolic blood pressure from RTS was significantly lower in patients without HEMS than those transported HEMS (3.79±0.70 vs. 4.00±0.00, p = 0.03). Except for this Result, the other Results of initial ISS, GCS, and RTS, and K-MBI, FIM, K-MMSE, and GOS at admission and discharge, and their gain scores showed no difference between the two groups.

Conclusion
The Results demonstrate that patients transported by HEMS showed little difference of the improvement patterns in mental, cognitive and functional status with patients by other transportations. However, further studies with more patients are necessary to confirm the advantages of HEMS to patients with traumatic brain injury.