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RISK FACTORS FOR 14-DAY REHOSPITALIZATION FOLLOWING TRAUMA WITH NEW TRAUMATIC SPINAL CORD INJURY DIAGNOSIS: A 10-YEAR NATIONWIDE STUDY IN TAIWAN

Carlos Lam[a], Ping-Ling Chen[a], Jiunn-Horng Kang[a], Kuang-Fu Cheng[a], Ray-Jade Chen[a] and **Kuo-Sheng Hung[a]**
[a]Taipei Medical University, Taiwan

Objectives: Fourteen-day rehospitalisation with new traumatic spinal cord injury (tSCI) diagnosis is used as an indicator for the diagnostic quality of the first hospitalization. In this nationwide population-based cohort study, we identified risk factors for this indicator.

Methods: We performed a nested case–control study by including patients who had first hospitalization for trauma in the National Health Insurance Research Database between 2001 and 2011. Variables including demographic and trauma characteristics were compared between patients diagnosed with tSCI at the first hospitalization and those having 14-day rehospitalisation with new tSCI diagnosis.

Results: Of 23617 tSCI patients, 997 had 14-day rehospitalisation with new tSCI diagnosis (incidence rate, 4.22%). The risk of 14-day rehospitalisation with new tSCI diagnosis was significantly lower in patients with severe (injury severity score [ISS] = 16–24; odds ratio [OR], 0.17; 95% confidence interval [CI], 0.13–0.21) and profound (ISS > 24; OR, 0.11; 95% CI, 0.07–0.18) injuries. Interhospital transfer (OR, 8.20; 95% CI, 6.48–10.38) was a significant risk factor, along with injuries at the thoracic (OR, 1.62; 95% CI, 1.21–2.18), lumbar (OR, 1.30; 95% CI, 1.02–1.65), and multiple (OR, 3.23; 95% CI, 1.86–5.61) levels. Brain (OR, 2.82), chest (OR, 2.99), and abdominal (OR, 2.74) injuries were also identified as risk factors. In addition, the risk was higher in patients treated at the orthopaedic department (OR, 2.26; 95% CI, 1.78–2.87) and those of other surgical disciplines (OR, 1.89; 95% CI, 1.57–2.28) than in those treated at the neurosurgery department.

Conclusions: Delayed tSCI diagnoses are not uncommon, particularly among trauma patients with ISSs <16 or those transferred from lower-level hospitals. Further validation and implementation of evidence-based decision rules is essential for improving the diagnostic quality of traumatic thoracolumbar SCI.

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