

SPINAL

LESIONS IN CAR CRASH AMONG LOMBARDY TRAUMA REGISTRY: WHAT ABOUT SELF-EXTRICATION?



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BACKGROUND

Every trauma patient is considered at risk of potential spinal injuries: movements restriction represents standard of care. Despite this, superiority of this method over manual in line stabilization isn't demonstrated and new approaches are considered. Recent literature highlighted advantages of self-extrication over tool-based techniques, both in time sparing and reduction of spinal motion. We evaluated the prevalence, in Lombardy Trauma Registry, of spine lesions (SL) among car crash victims who could self-extricate in prehospital phase.

MATERIALS AND METHODS

We considered adults with stable hemodynamic, respiratory, neurological parameters (SBP > 90 mmHg, HR < 120 bpm, RR < 20/min, GCS > 13 or Alert), able to walk (no pelvis nor lower limbs fractures), between January 2018 - December 2022. We investigated ISS score, need for prehospital intubation, damage control surgery procedures (DCS), ICU admission, prehospital time, and spinal cord injuries. Data were descriptively analyzed.

RESULTS

1863 cases out of 24921 reports suited the inclusion criteria. 47 patients (2,5%) reported a SL with increasing prevalence associated to older age (56,3 years vs 43,7 years in the general sample) and male gender. 7 (6 cervical and 1 thoracic SL) of them had a complete SL. Patients with a SL had a higher intubation need rate (2,2%) than patients without a SL (1%). 88,5% (23) of patients treated with DCS procedure (26) hadn't a SL. On the other hand, 6,4% (3) of patients with a SL needed DCS. 22,1% of patients admitted to ICU had a SL. Median time for the arrival of the prehospital rescue team was 12 minutes for the basis team, and 20 minutes for the advanced team (nurse or medical team). Median on-site stay was 44 minutes (DS 18,2) for patients without SL and 54 minutes (DS 22,6) for patients with SL. SL presence didn't affect median transport time (15 minutes). Overall median prehospital time (arrival and stay) was 76 minutes.

DISCUSSION

Considering only patients who could have been self-extricated, we should censor the 7 patients with complete SL, because they surely had symptoms and wouldn't be able to walk. Every patient was admitted to a trauma center and not to the nearest hospital. The possibility to reach for the proper treatment in a brief timespan should emphasize on how to optimize prehospital time. Considering this, prehospital stay time of 45 minutes is too long when an adequate center was within 15 minutes, especially in those patients who then needed DCS. That's why we believe that actual standard of care regarding patients extrication should be revised. Self-extrication could have been taken in account in patients without symptoms to reduce the overall pre-hospital time, without worsening the patients' conditions, while improving the trauma system efficiency. We suggest the elaboration of shared algorithms and continuous education in the prehospital trauma care, at any level.