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Acromioclavicular and sternoclavicular joint dislocations indicate severe concomitant thoracic and upper extremity injuries in severely injured patients

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Preliminary studies show that clavicle fractures (CF) are known as an indicator in the severely injured for overall injury severity that are associated with relevant concomitant injuries in the thorax and upper extremity. In this regard, little data is available for the rarer injuries of the sternoclavicular and acromioclavicular joints (SCJ and ACJ, respectively). Our study will answer whether clavicular joint injuries (CJI), by analogy, have a similar relevance for the severely injured. We performed an analysis from the TraumaRegister DGU (TR-DGU). The inclusion criterion was an Injury Severity Score (ISS) of at least 16. In the TR-DGU, the CJI were registered as one entity. The CJI group was compared with the CF and control groups (those without any clavicular injuries). Concomitant injuries were distinguished using the Abbreviated Injury Scale according to their severity. The inclusion criteria were met by $n = 114,595$ patients. In the case of CJI, $n = 1228$ patients (1.1%) were found to be less severely injured than the controls in terms of overall injury severity. Compared to the CF group ($n = 12,030$; 10.5%) with higher ISS than the controls, CJI cannot be assumed as an indicator for a more severe trauma; however, CF can. Concomitant injuries were more common for severe thoracic and moderate upper extremity injuries than other body parts for CJI. This finding confirms our hypothesis that CJI could be an indicator of further specific severe concomitant injuries. Despite the rather lower relevance of the CJI in the cohort of severely injured with regard to the overall injury severity, these injuries have their importance in relation to the indicator effect for thoracic concomitant injuries and concomitant injuries of the upper extremity. A limitation is the collective registration of SCJ and ACJ injuries as one entity in the TR-DGU. A distorted picture of the CJI in favor of ACJ injuries could arise from the significantly higher incidence of the ACJ dislocation compared to the SCJ. Therefore, these two injury entities should be recorded separately in the future, and prospective studies should be carried out in order to derive a standardized treatment strategy for the care of severely injured with the respective CJI.

The clavicle has a particular importance due to its function as a connection from the upper extremity to the trunk¹. Since the impact of the frequently occurring clavicle fractures (CF) in severely injured patients has been thoroughly investigated, minimal data are available on the comparatively rare injuries of the sternoclavicular and

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