

**Background:**

Cervical spinal cord injury (cSCI) is associated with significant morbidity and mortality. Early surgery is often advocated in the literature to optimise the end result even though there are no clear evidence of the benefit(1-3). The definition of “early” also varies but a time span of less than 24 hours between injury and start of surgery is commonly used. We present data from the largest trauma centre in Scandinavia focusing on timing of surgery for cSCI.

**Materials and methods:**

Population-based retrospective study with prospectively collected data from Oslo University Hospital (OUS) Ullevål’s neurosurgical trauma registry. OUS covers 3.1 million inhabitants living in South-Eastern Norway and perform all surgical procedures for cSCI. From this registry, all consecutive trauma cases with cSCI between 2015-2022 were included and demographics, injury classification, time of injury, time of admittance to OUS, time of surgery and surgical procedures were registered.

**Results:**

A total of 370 patients suffered cSCI during the defined time period in our health region. Median age was 64 years, 75% were males and 89% had sub-axial injuries. Central cord syndrome (CCS) and non-CCS injuries were found in 43% and 57%, respectively. Direct transfer to OUS from injury site was seen in 33% of cases while the remaining patients were triaged at local hospitals first. Neurological status on arrival OUS was ASIA A in 17%, ASIA B 12%, ASIA C 24% and ASIA D in 47% of cases. Surgery was performed in 290/370 patients (78%) of which 43% were operated within 24h and 65% within 48h. Patients with non-CCS compared to CCS were operated earlier (54% versus 26% within 24h). Causes for delayed surgery (>24h) were severe head injury, physiologically unstable conditions, and diverging opinions regarding timing of decompression for CCS.

**Conclusion:**

The fraction of patients with cSCI undergoing acute surgery within 24h from time of injury was lower than expected. Though reasons for delayed surgery often were well founded, there seem to be a potential for further improvements in the treatment of cSCI patients with focus on reduced delay to cervical spine surgery.

**References:**

1. Wang T, Park C, Zang H. Management of acute traumatic spinal cord injury: A review of the literature. *Front Surg* 2021;8:1-15
2. The OSCIS investigators. Effect of early vs. Delayed surgical treatment on motor recovery in incomplete cervical spinal cord injury with pre-existing cervical stenosis. *JAMA Neurol*, 2021;4:1-13