

#### Background:

Penetrating trauma to the head and neck (HN) has increased during the past decade in Sweden. This aim of this study was to characterize these injuries and to evaluate the outcome in patients treated at a tertiary trauma centre.

#### Methods:

Swedish trauma registry (SweTrau) data was extracted on patients with HN injuries admitted to Karolinska University Hospital, Stockholm, between 2011 and 2019. Outcome information was extracted from hospital records, with primary endpoints focusing of physiological outcome measures and secondary endpoints on surgical and radiological outcomes.

#### Results:

Of 1436 penetrating trauma patients, 329 patients with penetrating HN injuries were identified. 20% (n=66) suffered a gunshot wound (GSW), 73% (n=240) a stab wound (SW), and 7% (n=23) other trauma mechanisms (OTM). The median age for GSW, SW and OTM were 25, 33, and 21, respectively. Assault was primary intent, GSW (81.8%, n=54) and SW (65.8%, n=158). Patients suffering GSWs had severer injuries, worse admission GCS-M and higher intubation rate at the injury site. Most GSW patients underwent major surgery (59.1%) as an initial procedure and more likely had intracranial haemorrhage (ICH) (21.2%). The 30-day mortality: 45.5% (n=30) for GSWs, 5.4% (n=13) for SWs and 0% (n=0) for OTMs. There was a yearly increase in incidence and mortality for GSW and SW.

#### Conclusion:

Between 2011 and 2019, there was an increasing yearly trend of incidence and mortality from penetrating HN trauma in Stockholm, Sweden. GSW patients suffered more severe injuries, ICHs, and underwent more surgical interventions compared to SW and OTM.