

Category :**Brain: Head trauma**

A65 - Prevalence of clinically significant head injury among patients intubated in the field due to suspected severe traumatic brain injury.

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Introduction:

Prehospital care of severe traumatic brain injury (TBI) focuses on preventing the secondary insult caused by hypoxemia and hypotension. Current guidelines advocate early endotracheal intubation (ETI) in patients with suspected severe TBI. Although potentially beneficial, prehospital ETI is associated with a high rate of complications. The ability to accurately diagnose TBI in the field is limited. We investigated the prevalence of clinically significant TBI among patients intubated in the field due to presumed severe TBI.

Methods:

Data were retrospectively collected from EMS and hospital records of trauma patients for whom ETI was attempted on the scene (either successfully or not) and who were transferred to Rambam Health Care Campus, Israel between 2014 and 2020. The indication for ETI was extracted. The primary outcome was clinically significant head trauma (a significant lesion on head CT, need for neurosurgery, or abnormal neurologic examination after extubation) among patients intubated due to suspected severe TBI. We excluded patients intubated due to non-traumatic conditions, burns, during CPR, facial trauma compromising airway, hypoxemia, and severe shock.

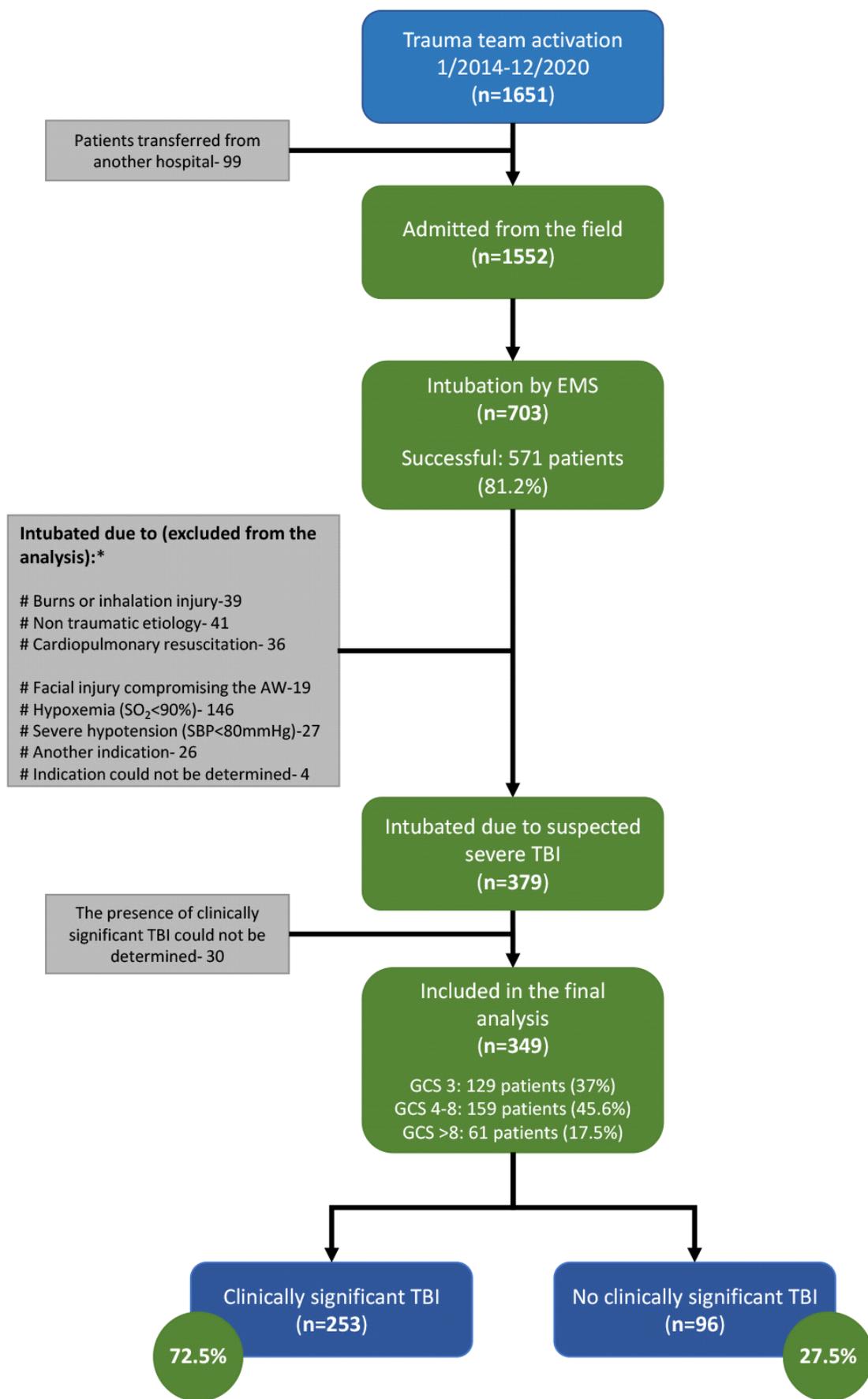
Results:

349 patients were included in the final analysis (Fig.1)- 95.7% suffered blunt trauma, 82.8% were male, and the median age was 34 years (IQR 23-57). 253 patients (72.5%) had clinically significant head trauma. In a multivariable analysis, risk factors for significant head injury were GCS<9 (OR 3.58, 95% CI 1.96-7.69, p<0.001) and alcohol intoxication (OR 0.16, 95% CI 0.06-0.46, p<0.001).

Conclusion:

A substantial portion of patients intubated in the field due to suspected severe TBI, did not suffer a clinically significant head injury. This population may be exposed to the risks and complications of prehospital ETI without any potential benefits. Patients with a higher field GCS and those suffering from intoxication have a higher risk of misdiagnosis and potentially unnecessary ETI.

Image :



Study flow chart.