Gender and Age Impacting Outcomes in Trauma Patients with Delirium

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RESEARCH QUESTION

What demographic patterns exist in trauma patients with delirium and how do these impact patient outcomes?

BACKGROUND

Delirium is acute onset episode of disorganized thinking, periods of inattention, disorientation, or perceptual disturbances, diagnosed with the Confusion Assessment Method (Table 1). It is associated with increased mortality, longer LOS, and worse long-term cognitive outcomes. Delirium arises from the interplay between predisposing risk factors (sepsis, smoking, dementia, cardiac disease) and precipitating factors (prolonged ventilation, sedatives, circadian rhythm disruption, and metabolic dysfunction). The relationship between patient demographics and outcomes in delirious patients are not fully understood. Additionally, the impact on LOS remains an important area of investigation, as increased LOS increase healthcare costs and patient morbidity.

METHODS

A retrospective chart review was conducted on 157 trauma patients diagnosed with delirium between 2020 and 2023 at a level one trauma center. Patient data including age, gender, hospital length of stay, ISS, and predicted outcome were extracted from electronic medical records. A p-value <0.05 was considered significant.

Figure 1. Mean Hospital Length of Stay by Age and Gender

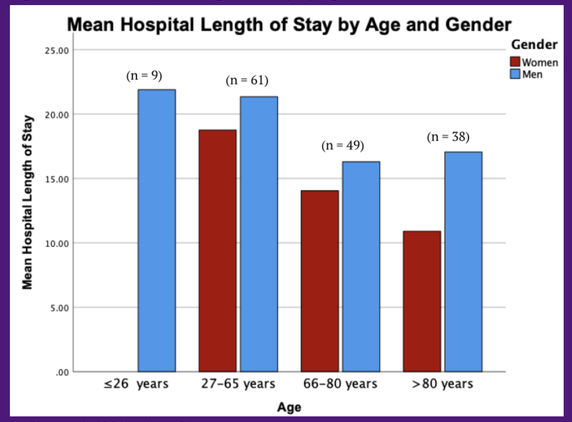


Figure 2. Percentage of Patients with Elevated EtOH by Age Group

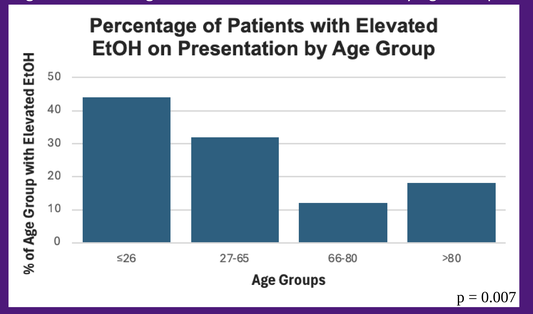


Figure 3. Percentage of Patients with Head Injury by Age Group

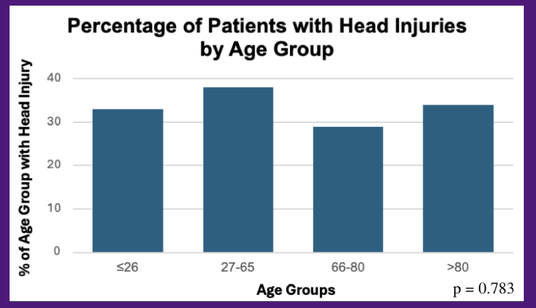


Figure 4. ISS by Age Group

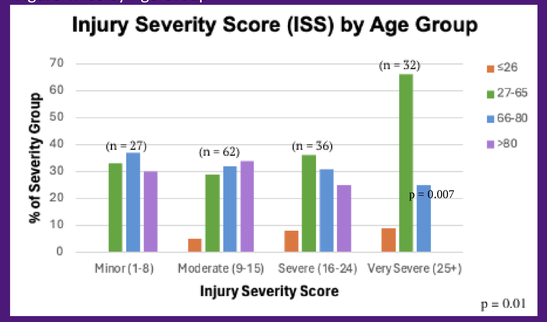


Figure 5. Outcome Status by Age Group

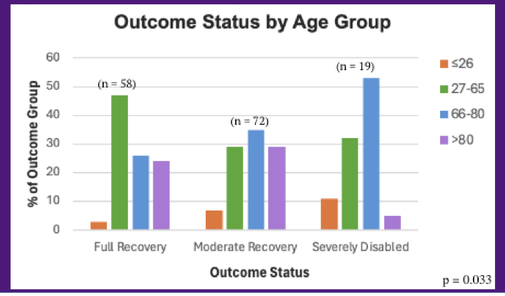


Table 1. Confusion Assessment Method

Confusion assessment method (CAM)		
Feature	**Definition**	**Description**
Feature 1	Acute onset with fluctuating course	The patient has the following: Change in mental status from baseline Fluctuating level of consciousness, attention, speech, and/or disordered thinking
Feature 2	Inattention	The patient has trouble focusing, keeping track of the conversation, or can be easily distracted.
Feature 3	Altered consciousness	The patient may be either: Hypervigilant Drowsy, lethargic, stuporous, or comatose
Feature 4	Thinking is disorganized	The patient's speech is unclear, they seem incoherent, or the flow of ideas is illogical.
Diagnosis of delirium requires features 1 and 2 PLUS either feature 3 or 4.		

REFERENCES

RESULTS

Younger patients and males with delirium experienced longer LOS (Figure 1). Younger patients had increased alcohol use when compared to older age groups (Figure 2). Percentage of head injury was not significantly different among age groups (Figure 3). Among those with very severe ISS, younger patients predominate (Figure 4). Yet they demonstrate higher rates of full recovery compared to elderly patients, who show higher rates of severe disability (Figure 5). Seven patients died, 6 out of 7 from 27-65 age group.

LIMITATIONS

Limitations include a small sample size, uneven age group distribution, non-normal data, and underreporting of delirium. Confounding factors like substance abuse, illness severity, and cognitive impairment were present.

FUTURE DIRECTIONS

A prospective study is underway, focusing on surgical ICU patients and their families. Consenting participants' families will receive educational handouts and videos on delirium, including tips for reorientation and early detection. The study will assess delirium rates, severity, and long-term patient outcomes, while a survey distributed to nursing staff will evaluate the effectiveness of the educational intervention.