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Alcohol Abusing Patients that experience Delirium Tremens during admission for hip fractures experience higher morbidity

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Disclosures

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Background

- Alcohol abuse disorder is common
  - 10% of women and 20% men in western societies
- Decrease life span
- Severe Reduction of alcohol intake leads to symptoms of withdrawal tremens
  - -Delirium Tremens (DT)

Criteria for Alcohol Withdrawal

- Cessation or reduction of heavy alcohol consumption
- And at least two withdrawal symptoms

Criteria for Delirium

- Decreased attention/awareness
- Sensory Disturbance
- Cognitive Disturbance
- No other cognitive disorder

Delirium Tremens

- Meets criteria for Alcohol Withdrawal and Delirium

- Untreated DT with the current benzodiazepine treatment regimens have reported mortality rates of 1-4%

Hip Fractures

- Hip fracture incidence is 0.5-1.0%
- Usually require surgery and hospitalization
- Poor outcomes in hip fracture patients who abuse alcohol

Objective

- Effects of DT on acute hip fractures patients
- Incidence of DT in at risk patients with hip fractures
- Characterisitics of DT vs. Alcohol Abusing patients with hip fractures
- Identify rates of morbidity, mortality, and increased health care utilization

Objective

- Evaluate effect of DT prophylaxis on alcohol abusers suffering hip fractures

Hypothesis

- DT in hip fracture patients will have an increase of inpatient morbidity, mortality, and health care resource utilization

Inclusion Criteria

- ICD-9 Diagnosis codes for Subtrochanteric, intertrochanteric, neck or head femur fractures
  - 820.00, 820.01, 820.02, 820.03, 820.09, 820.20, 820.21, 820.22, and 820.8

- ICD-9 Diagnosis codes for Alcohol abuse and/or Delirium Tremens diagnosis
  - 291.x, 303.0x, 305.0, 305.00, 305.02, 790.03, 980.0, 980.0, 980.1, 980.2, 980.3, 980.8, 980.9, E860, E860.0, E860.1, E860.2, E860.3, E860.4, E860.8, E860.9, V11.3, V70.4, V79.1

Exclusion Criteria

- Incomplete records or imaging
- Patients younger than 18 years of age
- Periprosthetic fractures
- Non-operative greater trochanteric fractures

Methods

- Institutional review board approval
- Retrospective chart review April 2006-August 2015

Methods

- Occurrence of DT in alcoholic hip fracture patients
- Characterisitics of DT vs. Alcohol Abusing patients with hip fractures
  - Age, gender, Charleson Comorbidity Index, Injury patterns, Surgical treatment
- Evaluated morbidity, mortality, length of stay, and ICU utilization

Statistical Analysis

- Fisher's exact tests
- Wilcoxon rank-sum test
- Kaplan-Meier curves

Results

- 86 patients identified
- 45 patients met inclusion criteria

Demographics

	Age (mean)	Sex	Charleson Co-Morbidity Index
No DT	53	69% Male	2.2
DT	62	100 % Male	3.1

Fracture Type

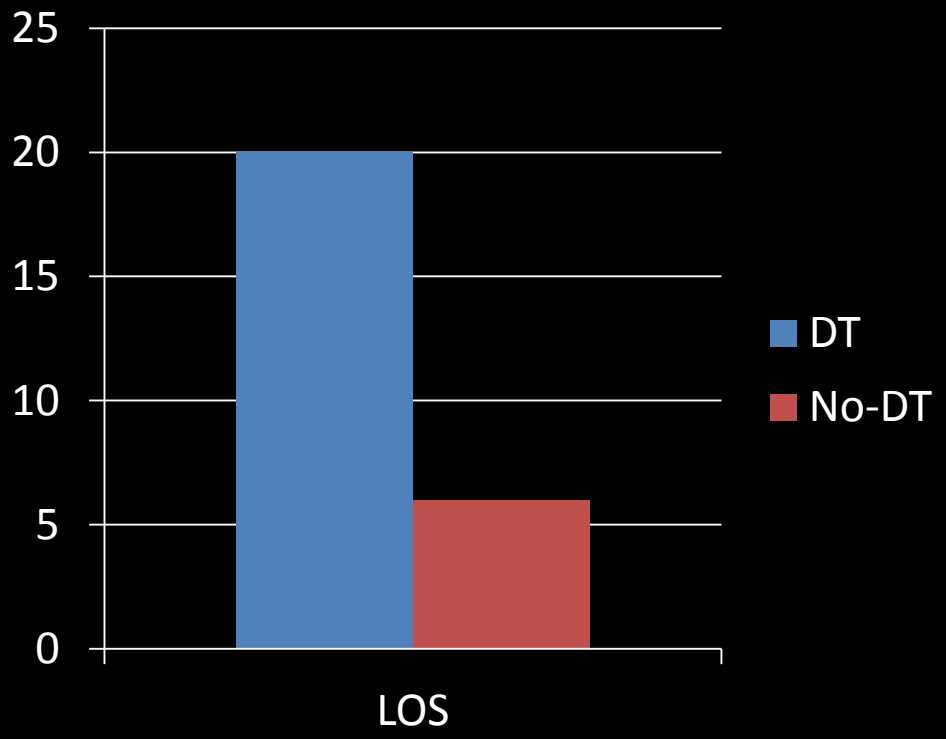
Fracture	DT	No-DT
Femoral Head	0 %	6.1%
Femoral Neck	14.3%	45.5%
Intertrochanteric	71.4%	33.3%
Subtrochanteric	14.3%	15.1%

Surgery Type

Surgery	DT	No-DT
ORIF	0%	15.2%
Intramedullary Nail	85.7%	48.5%
Sliding Hip Screw	0%	3%
Hemiarthroplasty	14.3%	15.2%
Total Hip Arthroplasty	0%	12.1%
Closed Treatment	0%	6%

Results

- 16% experienced DT
- LOS significantly longer in the DT group (p=0.0013)



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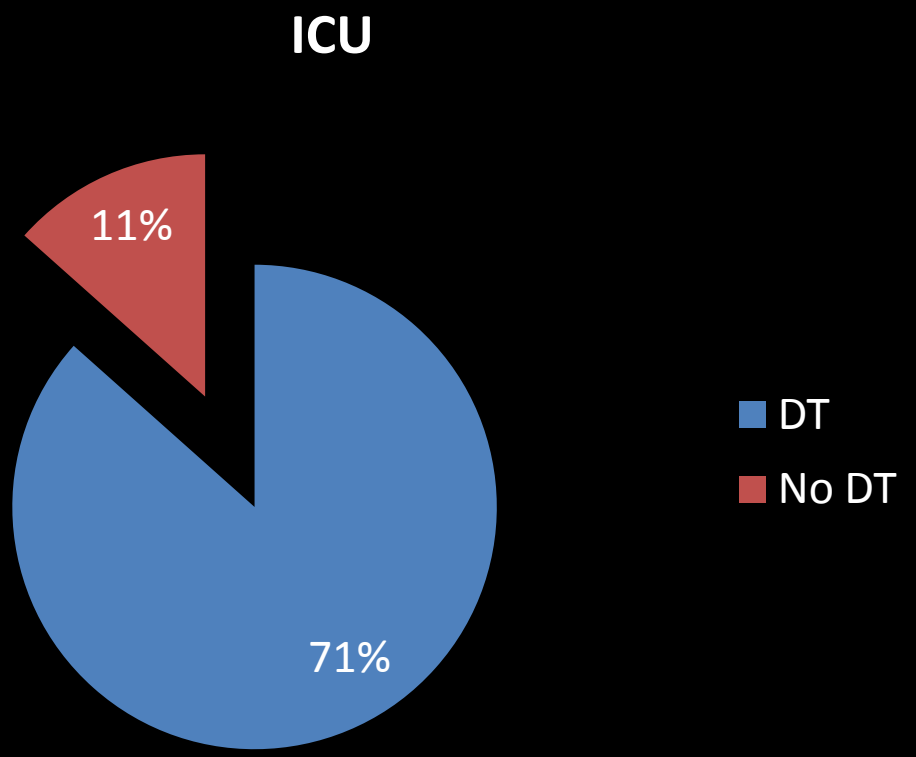
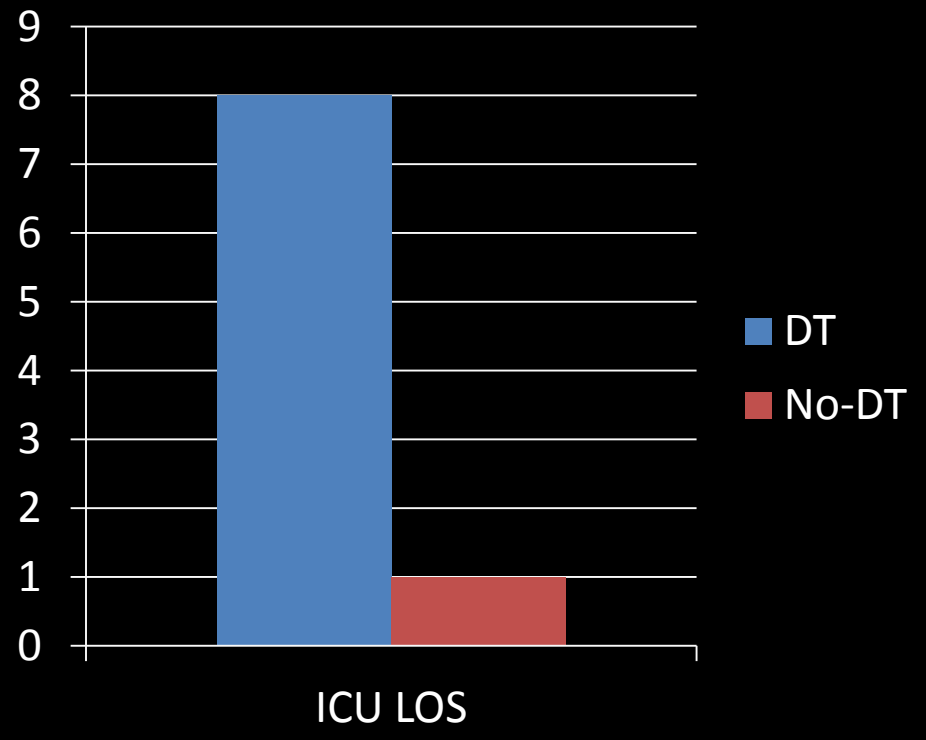
Results

- DT group more likely to require an ICU stay (p=0.0018)



Results

- ICU LOS was significantly longer (p=0.0052)
- Inpatient complications significantly higher (p=0.0035)



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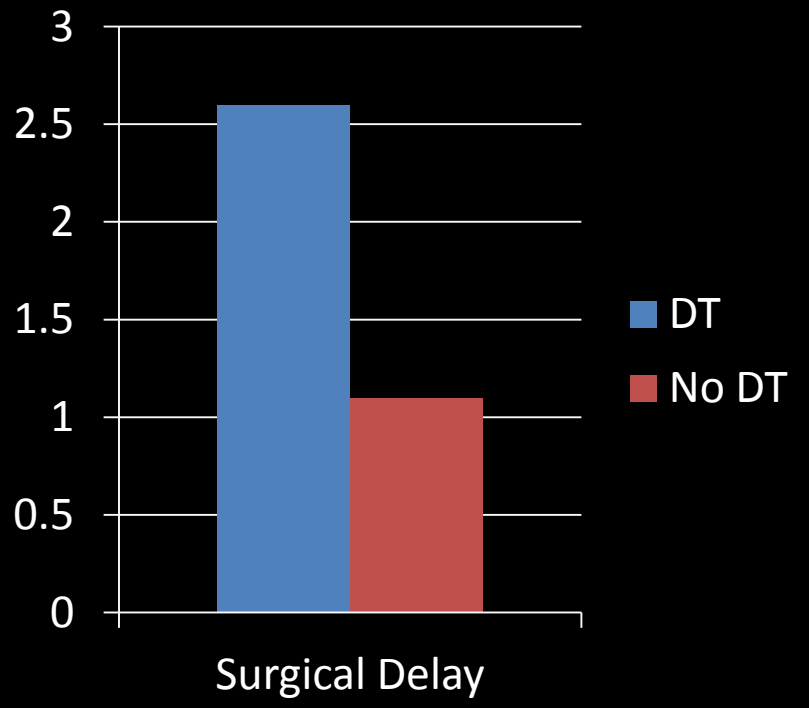
Results

- DT patients more frequently received benzodiazepine treatment
- Duration of prophylaxis not significantly different
- Number of prophylactic regimens not significantly different

Results

- Significant delay to surgical intervention in DT patients (p=0.04).



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Discussion

- Patient characteristics
  - DT trending to be older male patients with higher CCI from low energy mechanisms
  - The non-DT ETOH abusing patients included a higher proportion of trauma patients therefore a greater range of treatments and injury patterns. Also likely reason for younger age.

Discussion

- DT group suffered significantly more inpatient morbidity
  - Sepsis, Pneumoniae, Aspiration

- DT group experienced a significant delay on average of almost 2 more days until having surgical treatment

Discussion

- DT group
  - Significant increase in LOS: 20 vs 6 days
  - Significant increase in ICU Days : 8 vs 1 days

These increases are likely due to the increased morbidity experienced by these patients

Discussion

- Alcohol supplementation

- Prophylactic regimens utilized

Discussion

- Potential biomarkers for DT screening:
  - Phosphatidylethanol
    - May be a marker for chronic alcohol intake
  - Carbohydrate-deficient transferrin (CDT)
  - Blood ethanol

Discussion

- Weakness
  - Retrospective chart review
    - Diagnosis entry errors?
  - Limited Number of Patients

Conclusion

- DT may occur in 16% of at risk alcohol abusing patients that suffer a hip fracture
- Patients with hip fractures complicated by DT have significant increases in inpatient morbidities
- DT hip fracture patients have significant increases in resource utilization
- Aggressive use of DT prophylaxis in at risk hip fracture patients

Conclusion

- Further studies?
  - National hospital database review
  - Review non-alcohol abusing hip fracture patient characteristics at our institution

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Thank You

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