

# **Preoperative depression is associated with a higher risk of bleeding in Type A Aortic Dissection repair: A population study of National Inpatient Sample from 2015-2020**

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# Disclosures

- No disclosure



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# Introduction

- **Stanford type A aortic dissection (TAAD)**
  - Surgical emergency
  - High mortality rate (10-25%)
- **Mental health disorders and surgery**
  - Depression prevalent among patients who present with TAAD
  - Preoperative depression associated with adverse outcomes after major surgery



# Purpose

**Examine the effect of preoperative depression on the in-hospital outcomes following TAAD repair.**

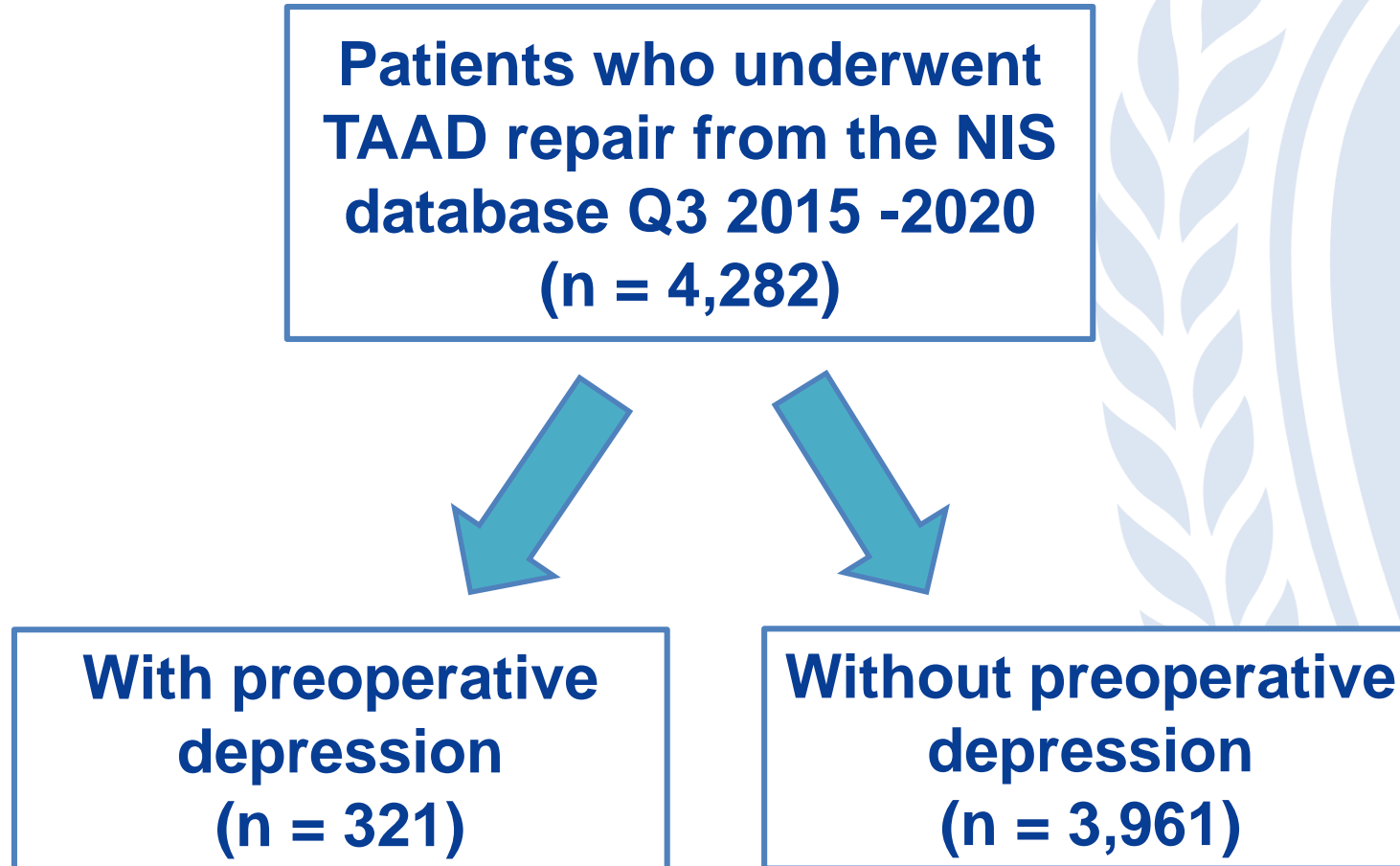


# Methods

- **Subject: patients who underwent TAAD repair from Q4 of 2015 – 2020 using National inpatient Sample (NIS)**
  - Cohorts: with and without preoperative depression
- **Statistical Analysis: multivariable logistic regression**
  - Adjusting for patient demographics and comorbidities



# Results



# Results

	Depression (n = 321)	No depression (n = 3,961)	aOR for depression/no depression (95% CI)	p-value
<b>Mortality</b>	38 (11.84%)	609 (15.37%)	0.838 (0.579-1.212)	0.35
<b>MACE</b>	37 (11.53%)	431 (10.88%)	1.195 (0.824-1.732)	0.35
<b>MI</b>	21 (6.54%)	212 (5.35%)	1.358 (0.851-2.168)	0.20
<b>Stroke</b>	12 (3.74%)	166 (4.19%)	1.058 (0.555-2.018)	0.86
<b>TIA</b>	0 (0%)	14 (0.35%)	NA	NA
<b>Neurological complications</b>	14 (4.36%)	190 (4.8%)	1.044 (0.574-1.9)	0.89
<b>Pericardial complications</b>	57 (17.76%)	725 (18.3%)	1.113 (0.817-1.516)	0.50
<b>Pacemaker implantation</b>	6 (1.87%)	57 (1.44%)	1.201 (0.511-2.825)	0.67
<b>Cardiogenic shock</b>	49 (15.26%)	699 (17.65%)	1.014 (0.73-1.408)	0.94
<b>Respiratory complications</b>	65 (20.25%)	878 (22.17%)	0.96 (0.719-1.281)	0.78
<b>Mechanical ventilation</b>	109 (33.96%)	1281 (32.34%)	1.207 (0.929-1.568)	0.16
<b>AKI</b>	127 (39.56%)	1966 (49.63%)	0.787 (0.612-1.012)	0.06
<b>Post-procedural renal failure</b>	5 (1.56%)	60 (1.51%)	1.191 (0.471-3.013)	0.71
<b>VTE</b>	1 (0.31%)	94 (2.37%)	0.178 (0.025-1.288)	0.09
<b>PE</b>	1 (0.31%)	8 (0.2%)	1.124 (0.135-9.338)	0.91
<b>Hemorrhage/hematoma</b>	268 (83.49%)	3034 (76.6%)	1.593 (1.161-2.184)	<b>&lt;0.01</b>
<b>Infection</b>	23 (7.17%)	361 (9.11%)	0.902 (0.573-1.42)	0.66
<b>Sepsis</b>	0 (0%)	8 (0.2%)	NA	NA
<b>Deep wound complication</b>	0 (0%)	27 (0.68%)	NA	NA
<b>Superficial wound complication</b>	5 (1.56%)	71 (1.79%)	0.947 (0.378-2.374)	0.91
<b>Vascular complication</b>	7 (2.18%)	208 (5.25%)	0.419 (0.194-0.902)	<b>0.03</b>
<b>Diaphragmatic paralysis</b>	2 (0.62%)	10 (0.25%)	2.675 (0.569-12.568)	0.21
<b>Reopen surgery</b>	8 (2.49%)	91 (2.3%)	1.31 (0.623-2.753)	0.48
<b>Transfer out</b>	131 (40.81%)	1292 (32.62%)	1.396 (1.077-1.81)	<b>0.01</b>

# Results

Perioperative variables	Depression ( n = 321) Mean $\pm$ SD	No Depression ( n = 3,961) Mean $\pm$ SD	F score	p-value
<b>Admission to operation (hours)</b>	0.97 $\pm$ 2.54	0.90 $\pm$ 2.93	<0.01	0.94
<b>LOS (days)</b>	14.03 $\pm$ 11.69	13.91 $\pm$ 12.62	1.57	0.21
<b>Total hospital charge (US dollars)</b>	387,597 $\pm$ 305,352	445,962 $\pm$ 461,062	0.29	0.59





# Conclusions

- **Comparable mortality**
- **Preoperative depression → higher risk of bleeding postoperatively**
  - **Selective Serotonin Reuptake Inhibitors (SSRIs) disrupt platelet function**
- **Guide blood product management (possibly platelet transfusion) in patients with depression**

