Children's Mercy Kansas City
SHARE @ Children's Mercy

Posters

10-2021

Racial Disparities in Testicular Torsion

Kayla B. Briggs

Obiyo O. Osuchukwu

Chris E. Roberts

James Fraser

Wendy Jo Svetanoff

See next page for additional authors

Follow this and additional works at: https://scholarlyexchange.childrensmercy.org/posters

 Part of the Pediatrics Commons, and the Surgery Commons

Authors

Kayla B. Briggs, Obiyo O. Osuchukwu, Chris E. Roberts, James Fraser, Wendy Jo Svetanoff, Tolulope A. Oyetunji, and Hanna Alemayehu

Racial Disparities in Testicular Torsion

Kayla B. Briggs MD[1]

Obiyo O. Osuchukwu MD[1], Chris E. Roberts BS[2], James A. Fraser MD[1], Wendy Jo Svetanoff MD MPH[1], Tolulope A. Oyetunji MD MPH[1], Hanna Alemayehu MD[2]

[1]Children's Mercy Hospital Kansas City, MO, [2]University of South Alabama Children's and Women's Hospital Mobile, AL

Introduction

- Testicular torsion (TT) is a surgical emergency requiring prompt intervention to preserve testicular function
- Conflicting data regarding the impact of race and insurance status on gonadal loss
- Goal: determine the effect of race on the treatment and outcomes of TT

Methods

- Retrospective review; 12/2017-9/2019
- Patients <18 years presenting to 2 hospitals (H1 and H2) with acute scrotal pain
- Social vulnerability index (SVI) is determined by zip code; higher SVI denotes ↑ social vulnerability
- Demographic data, clinical history, imaging, diagnoses, and surgical outcomes recorded
- Primary outcome: diagnosis of TT

Results

- 515 patients seen for acute scrotal pain (H1 85%, H2 15%)
  - 20% diagnosed with torsion (n=103)
  - 25% with torsion required orchiectomy (n=26)
- African American (AA) and Hispanic patients were more likely to have SVI >75th (see table 3)
- AA patients 4x more likely to diagnosed with torsion than white patients
  - Hispanic patients 53% less likely than AA to be diagnosed with torsion
- No relationship between SVI and torsion or orchiectomy

Table 1. Baseline characteristics of patients presenting with acute scrotal pain.

Race (%) 1. African American (AA) 2. White 3. Asian 4. Hispanic 5. Other	 17.86 59.03 1.36 19.81 1.94
Age (years, [IQR])	10.83 [6.76,14.38]
BMI (kg/m^2, [IQR])	20.31 [17.29,24.44]
Insurance (%) 1. Public 2. Private 3. Uninsured 4. Other	 43.81 37.67 6.21 11.65
SVI [IQR]	0.46 [0.18,0.76]
Confirmed testicular torsion (%)	20.00
Orchiectomy rate (%)	5.05

Table 2. Characteristics between those with and without confirmed TT.

	Torsion (n=103)	**No torsion (n=412)**	**p-value**
Race (%) 1. AA 2. White 3. Asian 4. Hispanic 5. Other*	 34.95 42.72 1.94 20.39 0	 13.59 63.12 1.21 19.66 2.43	***<0.01***
Age (years, [IQR])	14.12 [12.13,15.69]	9.86 [5,13.05]	***<0.01***
BMI (kg/m^2, [IQR])	20.31 [16.82,23.86]	20.27 [17.29,24.92]	0.67
Insurance (%) 1. Public 2. Private 3. Uninsured	 51.96 43.14 4.90	 41.77 51.60 6.63	0.17
SVI [IQR]	0.46 [0.10,0.74]	0.46 [0.20,0.76]	0.18

*Other refers to those whose race was listed as American Indian (n=3), Pacific Islander (n=1), unknown, preferred not to answer, or was unavailable.

Table 3. Median SVI by race.

	Median Social Vulnerability Index (SVI) [IQR]	**p-value**
Black	0.624 [0.363,0.837]	***<0.01***
White	0.408 [0.116,0.624]	
Asian	0.043 [0.001,0.485]	
Hispanic	0.728 [0.403,0.856]	
Other (n=10)*	0.342 [0.196,0.413]	

Table 4. Logistic regression analysis.

Outcome: Torsion	**Odds ratio**	**95% Confidence Interval**	**p-value**
Dichotomized SVI (> & <75th percentile)	0.72	0.40-1.31	0.28
Race (African American as reference) 1. White 2. Asian 3. Hispanic 4. Other*	 0.25 0.33 0.47 -	 0.13-0.47 0.03-3.29 0.23-0.93 -	 ***<0.01*** 0.34 ***0.03*** -
Insurance (Medicaid as reference) 1. Private 2. Uninsured	 0.97 0.56	 0.56-1.67 0.19-1.67	 0.91 0.30
Age (years)	1.24	1.16-1.32	***<0.01***

Conclusion

African American patients were statistically more likely to be diagnosed with testicular torsion than white and Hispanic patients. Despite more African American and Hispanic patients having higher levels of social vulnerability, SVI was not associated with testicular torsion.

AAP experience PHILADELPHIA 2021 National Conference & Exhibition

USA HEALTH CHILDREN'S & WOMEN'S HOSPITAL

Children's Mercy KANSAS CITY