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Risk Factors for Surgical Shunt Placement Among Patients with Ischemic Priapism

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Background

- **Ischemic priapism is a urologic emergency**
- **Stepwise treatment algorithm**
 - Corporal aspiration and irrigation
 - Injection of phenylephrine
 - Surgical shunt placement
- **Limited data on outcomes of priapism treatment**

Background

- **Some patients may benefit from immediate shunt placement**
- **Initial maneuvers might be ineffective**
 - Unnecessary morbidity
 - Delays time to detumescence
- **Important to identify patients who will need a shunt at initial presentation**

Methods

- **Retrospective review of all patients with ischemic priapism at our institution**
 - January 2010 to December 2018
- **Patient demographics, priapism duration and etiology, and treatments**
- **Multivariate analysis to identify risk factors for surgical shunt placement**
- **ROC curve analysis to assess what priapism duration was most predictive of shunting**

Results

Priapism Characteristics	
	% (n)
Priapism Encounters	169
Unique Patients	143
Priapism Etiology	
Recreational Injectable	49% (82)
Urologist Prescribed Injectable	25% (43)
Oral PDE-5 Inhibitor	5% (9)
Trazadone	5% (9)
Other Medication	5% (9)
Sickle Cell	4% (7)
Unknown	7% (11)
Priapism Treatments	
Urology Consulted	76.9% (130)
Spontaneous Resolution	14.8% (25)
Corporal Aspiration/Irrigation and/or Injection of Sympathomimetic	84% (142)
Shunt Placement	15.4% (26)

Results

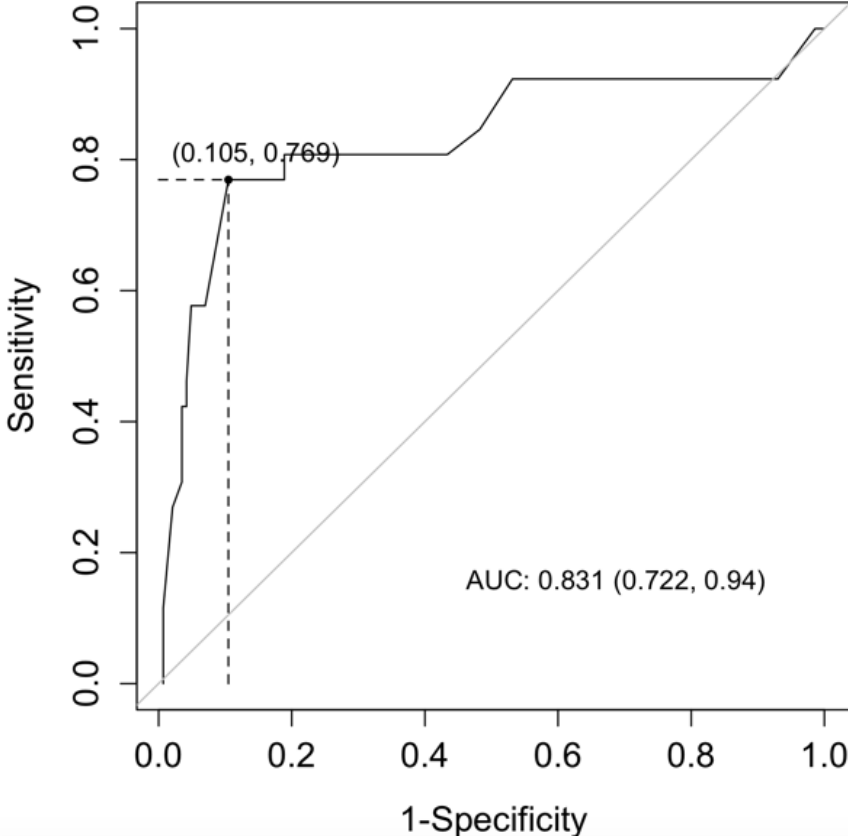
Bedside	n=8 (31%)
T-Shunt	5
Ebbehoj Shunt	1
Winter Shunt	1
Unspecified	1
Operating Room	n=18 (69%)
T-Shunt	6
Ebbehoj Shunt	6
Al-Ghorab Shunt	2
Quackle Shunt	2
Quackle and Al-Ghorab Shunts	2

Results

Multivariate Analysis for Probability of Needing a Surgical Shunt			
Variable	Odds Ratio	95% CI	p
Patient Age	1.00	0.95 – 1.10	0.14
Race			
Asian	Reference	Reference	Reference
Black or African American	0.29	0.02 – 5.10	0.40
Hispanic	0.33	0.01 – 0.60	0.51
White	0.40	0.03 – 5.00	0.47
Other	0.40	0.01 – 24.00	0.66
Prior Priapism	3.15	1.03 – 9.60	0.045
Priapism Duration	1.05	1.02 – 1.10	<0.001
Use of All Intracavernosal Injectables (ICI)	0.89	0.21 – 3.70	0.87
Use of Recreational ICI	0.71	0.18 – 2.80	0.62
Corporal Irrigation	4.75	0.79 – 28.40	0.09
Time of Presentation	0.71	0.23 – 2.20	0.56
Use of Illicit Drugs	1.75	0.17 – 17.80	0.64
HIV Status	0.84	0.25 – 2.80	0.77

Results

ROC Curve for Priapism Duration



Results

Need for Shunt	
Duration	% (n)
<24 Hours	5% (6/125)
≥24 Hours	57% (20/35)

Conclusions

- Consider proceeding directly to shunt placement for cases of priapism that present with a duration longer than 24 hours.
- These results can be used to counsel future patients and assist in the decision-making process for providers