

MP78-16: Probability of surgical management of low-flow priapism based on etiology

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Introduction:

Etiologies of low-flow priapism are varied and initial management in the emergent setting may involve ICI of phenylephrine and aspiration with or without irrigation. Persistent cases often undergo surgical therapy in the form of shunting, with a minority receiving acute device placement. Delay in management can be detrimental for outcomes. We sought to characterize the etiology and management for men presenting with priapism to a tertiary care center to better understand likelihood of surgical management based on parameters identifiable at presentation.

Materials/Methods:

An IRB approved database of all patients presenting for priapism to our center since January of 2011 was reviewed. Entries were reviewed through December 2018 and details were extracted relative to demographics and event details. For patients with recurrent encounters for priapism, the most recent episode was examined.

Results:

In total, 110 men were included for analysis. Median duration of priapism prior to emergency department (ED) presentation was 10 hours (1.5-196). Etiologies included: ICI (24%), idiopathic (16%), trazodone use (16%), sickle cell trait or disease (15%), use of other psychotropic medications (15%). Other etiologies comprised an insignificant number of cases. Cases secondary to ICI presented to the ED significantly sooner than those deemed idiopathic (mean 13 vs 52 hours, $p = 0.0003$) or those due to trazodone (mean 25 vs 50 hours, $p = 0.0176$). Likelihood of undergoing shunt surgery was highest among cases due to psychotropic medication (59%), followed by trazodone (44%), idiopathic (38%), and ICI (8%). Interestingly, no sickle cell patients required shunting, but mean time to presentation was 8.25 hours. When compared directly to ICI, the odds of shunting were significantly higher for idiopathic (OR 7.6 CI 1.35, 42.89 $p=0.02$) or trazodone-related cases (OR 9.6 CI 1.72, 53.4 $p=0.0098$). ROC analysis yielded a sensitivity of 1 and specificity of 0.9231 for requiring distal shunt using 20 hours to presentation as a cutoff (AUC=0.9904, $p<0.0001$). 0% of patients presenting below this had distal shunting, while 84% above were shunted.

Final Treatment	N (%)	Mean time to ER (hours)
Irrigation + phenylephrine	56 (51%)	8.7
Shunt	33 (30%)	63.7
Spontaneous resolution	15 (14%)	8.8
Irrigation alone	4 (4%)	8.5
Irrigation + epinephrine	2 (2%)	5.3

Table 2: Final treatment required and relationship to presentation time

Conclusion:

Cases of priapism presenting to the ED appear most commonly due to ICI, and these cases typically present earlier than for other etiologies and have a lower incidence of proceeding to shunt surgery. Priapism secondary to use of trazodone or other oral medications tends to present much later and has a significantly higher incidence of requiring shunt surgery. It seems intuitive that men prescribed ICI are better educated about the risk of priapism and that prescribers offering trazodone or psychotropic medications associated with priapism may need to better educate patients on risk.

Etiology	N (%)	Mean age (years)	Race*		Mean time to ER (hours)	Shunt required?
			Black	White		
Intracavernosal Injection	26 (24%)	54.2	17%	31%	13.0	8%
Idiopathic	22 (20%)	42.0	21%	15%	45.4	36%
Trazodone	18 (16%)	38.9	13%	21%	24.8	44%
Psychotropic Medication (except trazodone)	17 (15%)	37.6	15%	19%	35.4	59%
Sickle-cell disease	12 (11%)	20.6	23%	0%	8.3	0%
Cocaine Use	5 (5%)	43.4	2%	6%	23.6	40%
Sickle-cell trait	4 (4%)	24.9	6%	2%	8.3	25%
Oral ED Treatment	4 (4%)	54.5	4%	2%	19.1	25%
Testosterone replacement	2 (2%)	40.4	0%	4%	25.5	50%

Table 1: Details of patient presentation to emergency room (ER)