Hard Choices: A Case of Clozapine-Induced Priapism in Treatment Resistant Schizoaffective Disorder with Recurrent Catatonia

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BACKGROUND

- Medication induced priapism is the most common cause of ischemic priapism. If left untreated this can result in chronic erectile dysfunction, so prompt diagnosis and treatment is important
- Diagnosis can be especially challenging in patients experiencing acute psychosis who may not be able to give a clear report of symptoms
- While trazodone is the most widely recognized psychotropic associated with priapism, many antipsychotics also carry this risk due to their α1 antagonism.
- Evidence has shown that high affinity to the α1 receptor is associated with higher risk for priapism. However this relationship is less robust for agents with moderate/low affinity at the α1 receptor.
- Sexual dysfunction is one of the most commonly reported causes of treatment nonadherence in patients with schizophrenia

Most common causes of ischemic priapism:

- Intracavernosal ED medications
- Hemoglobinopathies
- Hypercoagulable states
- Cocaine use
- Antipsychotics
- Trazodone

Mechanism of Priapism:

- The mechanism is multifactorial, but α1 blockade in the corpus cavernosa is the most well supported theory
- Sympathetic blockade causes engorgement of the corpus cavernos which prevents venous outflow resulting in hypoxia and eventually fibrosis

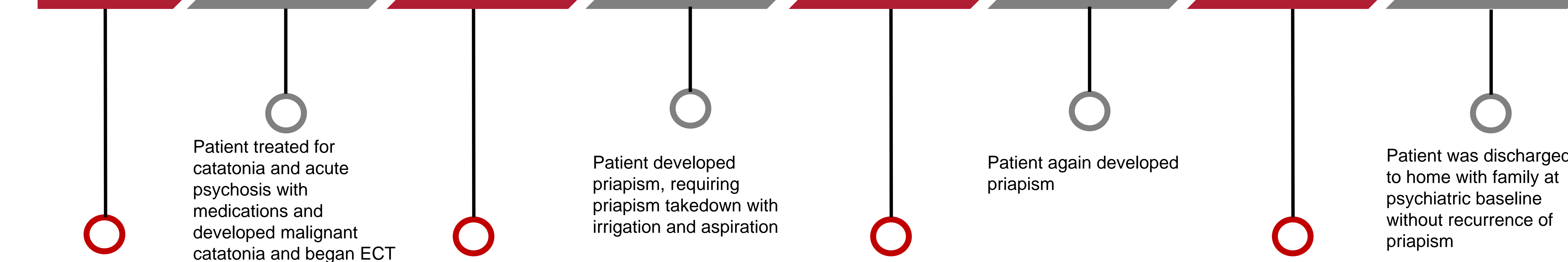
CASE

- Mr. C is a 54-year-old African American male with history of treatment-resistant schizoaffective disorder and recurrent catatonia
- During hospitalization he developed malignant catatonia which resolved with ECT
- After being restarted on clozapine he developed priapism, stopped taking all medications and became severely catatonic, requiring a second series of ECT
- A re-trial of clozapine was attempted due to his history of treatment resistance, and resulted in recurrent priapism.
- Antipsychotic options were limited due to the patient's history of treatment resistance, ongoing catatonia and now recurrent priapism
- Lurasidone was initiated due to its limited α1 antagonism
- Mr. C had a good response to this agent without any recurrent priapism. He was able to discharge to family at his psychiatric baseline.

Initial Mental Status Exam:
• Resting in bed with abnormal posturing of arms
• Did not answer majority of questions, instead repeating the phrase "some water"
• Displayed rigidity of UE and LE, staring, immobility
• Bush-Francis 14

Medication list on admission:

- Clozapine 50mg AM/200mg HS
- Lithium 300mg AM/450mg HS
- Fluvoxamine 25mg HS
- Lorazepam 1mg PO HS
- Trihexyphenidyl 5mg BID



CONCLUSIONS

- Lurasidone has low α1 blockade and can potentially avoid recurrence of priapism
- Priapism can occur irrespective of dose or length of time on an antipsychotic. Thus, it is difficult to predict when priapism will occur
- In this case, the patient's symptoms were initially interpreted as hypersexuality associated with his psychotic disorder. It is unclear if he had been experiencing recurrent priapism and whether this was a cause of his previous medication non-adherence.
- This case highlights the need for a low index of suspicion for priapism when patients in patients who are less able to clearly report their symptoms and are repeatedly non-adherent to medications
- Psychiatrists should be screening more directly for a history of priapism, as this is one of the few known risk factors for future priapism

Medication	α1 Binding Affinity*	Priapism risk
prazosin	0.03-0.31	
chlorpromazine	0.28	+++
clozapine	1.62	+++
paliperidone	2.5	+++
risperidone	5	+++
fluphenazine	6.4	
haloperidol	12	
trazodone	12-42	++
ziprasidone	18	++
quetiapine	22	++
aripiprazole	26	++
lurasidone	**47.9**	
olanzapine	109-115	

*lower number relates to higher binding affinity

REFERENCES

- Andersohn, F., Schmedt, N., Weinmann, S., Willich, S. N., & Garbe, E. (2010). Priapism associated with antipsychotics: role of alpha1 adrenoceptor affinity. *Journal of clinical psychopharmacology*, *30*(1), 68–71. https://doi.org/10.1097/JCP.0b013e3181c8273d
- Burk, B. G., & Nelson, L. A. (2021). Psychotropic-Induced Priapism in a Treatment-Refractory Patient: A Case Report. *Journal of pharmacy practice*, *34*(2), 309–313. https://doi.org/10.1177/0897190019885233
- De Fazio, P., Gaetano, R., Caroleo, M., Cerminara, G., Maida, F., Bruno, A., Muscatello, M. R., Moreno, M. J., Russo, E., & Segura-García, C. (2015). Rare and very rare adverse effects of clozapine. *Neuropsychiatric disease and treatment*, 11, 1995–2003. https://doi.org/10.2147/NDT.S83989
- Gottsch, H. P., Berger, R. E., & Yang, C. C. (2012). Priapism: comorbid factors and treatment outcomes in a contemporary series. *Advances in urology*, *2012*, 672624. https://doi.org/10.1155/2012/672624
- Proudman, R. G. W., Pupo, A. S., & Baker, J. G. (2020). The affinity and selectivity of α-adrenoceptor antagonists, antidepressants, and antipsychotics for the human α1A, α1B, and α1D-adrenoceptors. *Pharmacology research & perspectives, 8*(4), e00602. https://doi-org/10.1002/prp2.602
- Scherzer, N. D., Reddy, A. G., Le, T. V., Chernobylsky, D., & Hellstrom, W. J. G. (2019). Unintended Consequences: A Review of Pharmacologically-Induced Priapism. *Sexual medicine reviews*, 7(2), 283–292. https://doi.org/10.1016/j.sxmr.2018.09.002
- Sood, S., James, W., & Bailon, M. J. (2008). Priapism associated with atypical antipsychotic medications: a review. *International clinical psychopharmacology, 23*(1), 9–17. https://doi-org/10.1097/YIC.0b013e3282f1c1ef