

Stuck in a Ketamine Use Cycle: Anxiety, Cystitis, and Pain

Yonina C. Mar, MD

Internal Medicine and Psychiatry, Icahn School of Medicine at Mount Sinai, New York

RATIONALE

- 12x more ketamine seized by law enforcement in 2022 compared to 2017
- Recreational ketamine use is on the rise
- Ketamine is only FDA approved as an anesthetic (IV and IM)
- Esketamine (as intranasal spray) is FDA approved for specific cases of treatment resistant depression
- Ketamine is not FDA approved to treat anxiety
- Growing evidence for ketamine use in medicine is resulting in rise in recreational use

CASE BACKGROUND

- 30 year-old woman

Psychiatric History

Generalized anxiety disorder
Major depressive disorder
PTSD (repeated sexual trauma in childhood)
Eating disorder
Insomnia
Polysubstance use (alcohol use disorder, daily cannabis use, previous benzodiazepine use disorder)

Care Team

Addiction medicine primary care physician
Psychiatrist
Counseling psychologist
Addiction counselor
Yoga therapist

- Patient's sister was using illicit intranasal ketamine, patient observed sister's experience of anxiolytic and antidepressant effects

CASE

START

Intranasal illicit ketamine use to alleviate anxiety

1 mo

Decreased anxiety, improvement in mood, more social engagement, increased goal directed behavior, insights into her trauma, better sleep

3 mos

Tolerance increases, ketamine's positive effects start to decrease, anxiety increases, ketamine use increases

6 mos

Urological symptoms consistent with ketamine-induced cystitis

Incapacitating dysuria

12 mos

Medications introduced, have some positive effect (*see management below*)

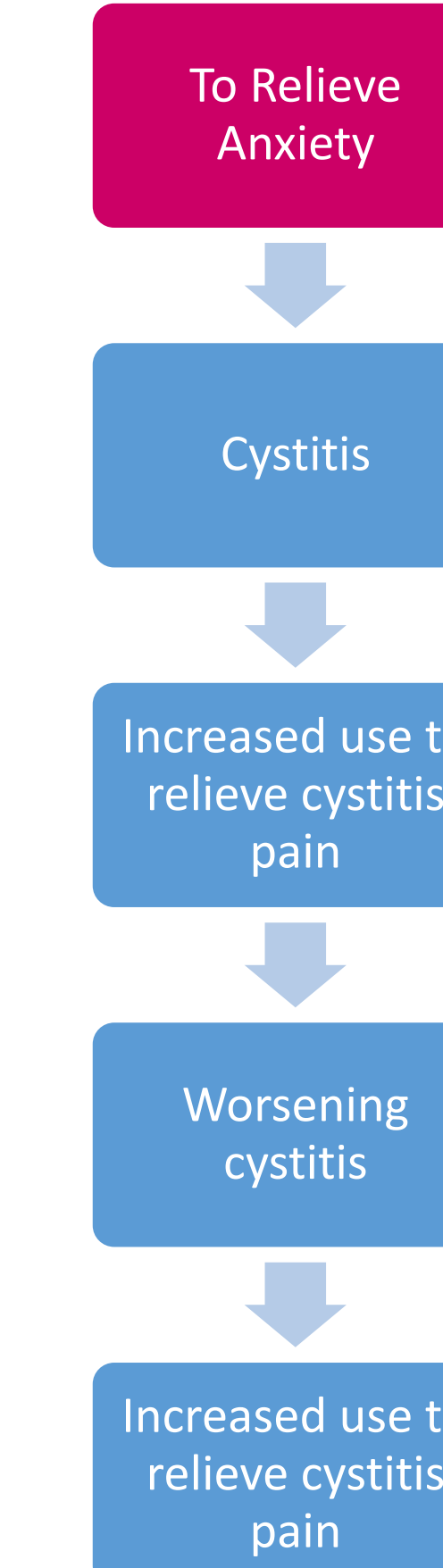
16 mos

Cycle: ketamine use = cystitis = more ketamine to relieve cystitis pain

PRESENT

Multiple attempts to reduce ketamine use (over several days) = unmasks pain = increase in use

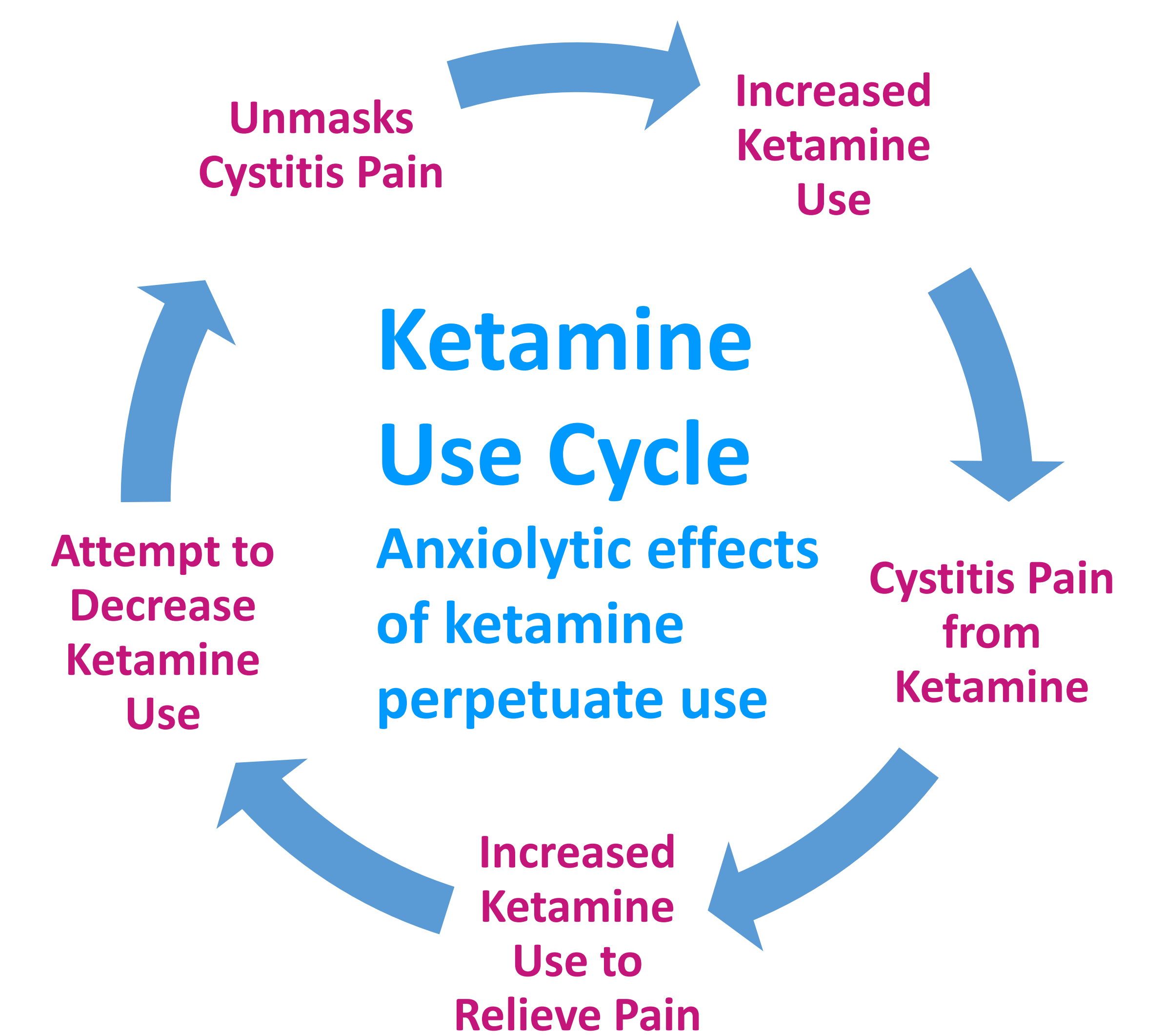
Initial Ketamine Use



KETAMINE-INDUCED CYSTITIS

Symptoms	Investigations	Disease Process	Management
Severe dysuria	CT scan	Can result in inflammation, ulceration, fibrosis	Oral medication:
Frequency	Cystoscopy		• Anticholinergic Agent: e.g., solifenacin
Urgency		Can lead to irreversible damage to urological system	• Anti-inflammatory analgesic: e.g., diclofenac
Gross hematuria			• Urinary analgesic: e.g., pentosane polysulfate sodium
			No role for antibiotics
			Definitive treatment = eliminate ketamine

CONCLUSION



- Identify individuals who are using ketamine
- Try to work with individuals to eliminate use early
- To avoid individuals becoming trapped in a use cycle and causing organ damage

KETAMINE-INDUCED CYSTITIS RESOURCES

<https://www.ic-network.com/pelvic-pain-conditions/ketamine-cystitis/>



<https://ketamynecystitis.org>

DISCLOSURES

There are no financial interests or relationships to disclose.

REFERENCES

Anderson DJ, Zhou J, Cao D, McDonald M, Guenther M, Hasoon J, Viswanath O, Kaye AD, Uruts I. Ketamine-Induced Cystitis: A Comprehensive Review of the Urologic Effects of This Psychoactive Drug. *Health Psychol Res.* 2022 Sep 15;10(3):38247.

Liu Y, Lin D, Wu B, Zhou W. Ketamine abuse potential and use disorder. *Brain Res Bull.* 2016 Sep;126(Pt 1):68-73.

Palamar JJ, Wilkinson ST, Carr TH, Rutherford C, Cottler LB. Trends in Illicit Ketamine Seizures in the US From 2017 to 2022. *JAMA Psychiatry.* 2023 Jul 1;80(7):750-751.

Winstock AR, Mitcheson L, Gillatt DA, Cottrell AM. The prevalence and natural history of urinary symptoms among recreational ketamine users. *BJU Int.* 2012;110(11):1762-1766.

Zhou J, Scott C, Miab ZR, Lehmann C. Current approaches for the treatment of ketamine-induced cystitis. *NeuroUrol Urodyn.* 2023 Mar;42(3):680-689.

