

Title: Retrospective Case Series for Patients Receiving Ketamine for Migraine Related Chronic Pain

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INTRO:

- Previous studies looking at the efficacy of ketamine for the treatment of migraine related pain have yielded conflicting evidence
- Our study describes five refractory migraine patients treated at the Richmond VA Medical Center who showed improvements in pain scores after ketamine infusions

METHODS

- Demographic data, relevant medical history, and ketamine infusion history were obtained for each Veteran from the Computerized Patient Record System
- For each ketamine infusion, the dosage, date of infusion, medications given during the infusion, side effects during and after the infusion, pre/post infusion Department of Defense (DoD) Pain scores and pre/post infusion Defense and Veterans Pain Rating Scale (DVPRS) scores were recorded
- Percent change for pre/post infusion DVPRS and DOD scores as well as the average percent change in DVPRS and DoD scores for each infusion were calculated

RESULTS

- The average percent change in the DVPRS and DoD scores for all 6 infusions combined were an 80% and 78% reduction in pain scores respectively

DISCUSSION

- Our data supports the use of ketamine infusions in patients with refractory migraine related pain
- Limitations of our study include generalizability, duration of effect, and higher than actual percent change values

Ketamine infusions may cause significant decreases in pain due to refractory migraines

Patient	Preinfusion DVPRS/DOD Score	1st Infusion		Preinfusion DVPRS/DOD Score	2nd Infusion		Preinfusion DVPRS/DOD Score	3rd Infusion	
		DVPRS % Change	DOD % Change		DVPRS % Change	DOD % Change		DVPRS % Change	DOD % Change
1	4/10, 31/40	-75%	-84%	5/10, 34/40	-100%	-91%	4/10, 31/40	-25%	-9.7%
2	2/10, 35/40	-100%	-91%	2/10, 40/40	-100%	-100%	2/10, 8/40	-100%	-100%
3	10/10, 40/40	-50%	-100%	8/10, 29/40	-50%	-100%	10/10, 40/40	-90%	-100%
4	10/10, 27/40	-100%	-100%	7/10, 27/40	-71%	-56%	7/10, 28/40	-71%	-100%
5	5/10, 24/40	-100%	-67%	4/10, 2/40	0%	-100%	3/10, 0/40	-100%	0%
Average % Change		-85%	-88%		-64%	-89%		-77%	-62%

Patient	Preinfusion DVPRS/DOD Score	4th Infusion		Preinfusion DVPRS/DOD Score	5th Infusion		Preinfusion DVPRS/DOD Score	6th Infusion	
		DVPRS % Change	DOD % Change		DVPRS % Change	DOD % Change		DVPRS % Change	DOD % Change
1	6/10, 40/40	-33%	-85%	4/10, 36/40	-75%	-81%	6/10, 35/40	-67%	-60%
2	2/10, 4/40	-100%	-100%	1/10, 0/40	-100%	0%	2/10, 11/40	-100%	-36%
3	8/10, 7/40	-75%	-86%	9/10, 32/40	-78%	-56%	7/10, 26/40	-86%	-100%
4	7/10, 22/40	-86%	-86%	7/10, 25/40	-86%	-80%	7/10, 25/40	-86%	-80%
5	4/10, 7/40	-100%	-100%	5/10, 8/40	-100%	-100%	4/10, 12/40	-100%	-100%
Average % Change		-79%	-91%		-88%	-63%		-88%	-75%

Exclusion Criteria

- Urine drug screen (UDS) positive for illicit substances with the exception of cannabinoids only if patient has been examined by provider and deemed not acutely intoxicated
- On concomitant opioid therapy
- Previous adverse effects or allergies to ketamine
- Patient refusal
- Ischemic heart disease
- Seizure disorder
- End stage liver disease/cirrhosis
- End stage renal disease
- Multiple severe co-morbidities
- Psychosis
- Dementia
- Uncontrolled Hypertension (MAP>110 mmHg) baseline systolic >160mmHg or diastolic > 90mmHg
- Pregnancy
- Cervical spine diagnosis that is the cause of headache

Patient	Age	Sex	BMI	ASA Score	Frequency of Migraines	1st Pre-Infusion DVPRS/DOD Scores	# of Psych, Cardiac, and Pain Comorbidities
1	54	M	40.3	3	3-4 per week	4/10, 31/40	9
2	56	F	42.1	3	3 per week	2/10, 35/40	17
3	60	M	35	3	Daily	10/10, 40/40	6
4	40	M	46.2	3	Daily	10/10, 27/40	12
5	50	F	24	3	3-4 per month	5/10, 24/40	7