

## Ketamine abreaction in dissociative amnesia: A case report

Chilukuri Raviteja<sup>1,\*</sup>, Chilukuri Harihar<sup>2</sup>

<sup>1</sup>Resident, <sup>2</sup>Professor & HOD, Dept. of Psychiatry, <sup>1</sup>Katuri Medical College, Guntur, Andhra Pradesh, <sup>2</sup>Bhaskar Medical College, Yenkapally, Hyderabad, Telangana, India

**\*Corresponding Author:**

Email: Chilukuri.raviteja@gmail.com

---

### Abstract

Drug facilitated abreaction has been in use for the treatment of Dissociative disorders for many years now. The successful use of ketamine as an abreagent was reported in the 1980s. Not much literature is available on this effective and safe technique. In this case report, we present the case of a fifteen year old boy who presented with dissociative amnesia of eight days duration, including amnesia for the three languages he was fluent in, which developed just two weeks before his tenth standard board examination. He underwent a session of Ketamine abreaction in the dose of 1mg/kg administered intramuscularly during which he recovered his languages and also recollected his lost traumatic memories. The single treatment session enabled him to perform well in his examinations. Further follow-up for the next two months revealed him to be in total remission.

Dissociative Disorders can be utterly maladaptive. Hence, they need to be rapidly relieved. Ketamine abreaction in the dose of 1 mg/kg intramuscularly is a safe, quick and effective treatment. Its successful use in a 15 year old boy with Dissociative Amnesia which was thwarting his crucial tenth class board examination is reported here.

**Keywords:** Ketamine, Abreaction, Dissociative amnesia.

---

### Introduction

Dissociative amnesia (DA) is a reversible memory impairment in which groups of memories for personal experience that would ordinarily be available for recall to the conscious mind cannot be retrieved or retained in a verbal form.<sup>1</sup> Treatment with narcoanalysis using ultra-short acting barbiturates such as Pentothal Sodium and Amytal has been in vogue since many decades. A few studies during 1980s using Ketamine, due to its 'dissociative' effect, were reported to benefit some of these cases.<sup>2,3</sup> There were no subsequent studies reported. We are reporting a case of acute DA and its treatment with use of a novel abreagent (Ketamine) in an effort to revive this relatively safe and effective treatment modality.

### Case Report

A 15 year old boy (X), in his tenth class, from rural Telangana state, presented during the first week of March 2017 with complaints of headache of 18 months duration, and amnesia of eight days duration for all events and for all languages other than his mother tongue (a tribal dialect).

Eight days ago, X woke up from an afternoon nap unable to speak in any language other than his mother tongue (he previously spoke fluent Hindi, English and Telugu). He had forgotten his name and couldn't recognize his friends/relatives. He was unable to recall the events of that day or anything before that. His sleep and appetite were unimpaired. He had stopped going to school since then. There was no history of high fever, vomiting, seizures, head injury or any substance abuse. He had to appear for his tenth class board exams two weeks later. He was therefore taken to a local hospital

where he was evaluated by a neurosurgeon, who after finding his electroencephalogram and MRI brain to be normal, referred him for psychiatric consultation. Past medical, psychiatric, personal and family histories were nil contributory. Detailed physical examination revealed no abnormalities.

During mental status examination, he was found to be fully conscious and alert, but rapport was difficult due to his language symptom. He communicated only through gestures or a translator. He spoke in a low tone and lacked spontaneity. He was anxious. He did not cooperate for a formal testing of his cognitive functions; however, his memory was grossly impaired. He did not manifest any hallucinatory behaviour. His activities of daily living such as bathing and eating required constant encouragement from his care-takers.

A diagnosis of Dissociative Disorder (Amnesia) was made and the patient was engaged in supportive psychotherapy. Simultaneously, a trial of anxiolytic (Clobazam, ten milligrams b.i.d.) was given for three days with marginal improvement in his anxiety. There was no improvement in his memory or language symptoms. In an attempt to alleviate the only visible stress of exams, he was advised not to take the tenth class exams this year, but to no avail.

A Ketamine abreaction was therefore planned. After obtaining an informed consent from his parents, Injection Ketamine in a dose of 1 mg/kg was administered intramuscularly (IM). The patient became drowsy after ten minutes, followed by cataplexy that lasted for 15 minutes after which he started talking. While he was engaged in conversation, he spoke fluently in Hindi, English and Telugu.

He recalled all of his memories from the time his headache started i.e. about 18 months ago. As per his account which was later verified from his parents, he was a very bright student and his peers who were jealous of him, harassed him a lot. Besides, he was also worried over the on-going financial stressors on his parents. The final event which precipitated his dissociative amnesia was an alleged attack on his life while walking on the street.

On recovering from the effect of ketamine, he remained normal, talking cheerfully like his premorbid self. The stressors at school and at home revealed by him during the ketamine session were discussed on the same day with his parents and their support was sought in reassuring the patient. He was discharged the next day. He came for follow up after a week during which he was totally symptom free (including his headache). He cleared his tenth class board examination successfully, scoring an outstanding 9.8/10.

### Discussion

Majority of patients with acute conversion symptoms leave hospital either fully recovered or greatly improved.<sup>4</sup> The acute form may resolve spontaneously once the person is removed to safety from the traumatic or overwhelming circumstances. Or, they may develop a chronic, profoundly disabling form requiring constant care. Hypnosis has been used in a number of ways in the treatment of dissociative amnesia. It can be used to contain and modulate the intensity of symptoms; to facilitate controlled recall of dissociated memories; and to promote working through and integration of dissociated material. There is no known pharmacotherapy for dissociative amnesia other than pharmacologically facilitated interviews.<sup>1</sup> Drugs like Sodium Pentothal and Amobarbital have been used for this procedure with varying degrees of success.

Ketamine is widely used as an anaesthetic drug with a wide therapeutic index. It has an addiction potential and is classified in the UK as a class C drug. It has a half-life of 17 minutes and its urinary excretion occurs in two hours. When administered parenterally, it is totally eliminated from the body in 24 hours.<sup>5</sup>

Ketamine compared well if not better to the results achieved in other cases during Pentothal interview.<sup>2,3</sup> Ketamine acts as an abreaction in a much smaller dose (Anaesthetic dose is 6.5-13 mg/kg IM). The safety gap between intra venous (IV) Pentothal fatal dose and hypnotic dose is quite narrow and mostly depends on the rate of administration.<sup>6</sup> Ketamine has relatively better cardio-respiratory safety.<sup>7,8</sup>

Dissociative disorders including Amnesia though not life threatening, can be very disabling. They can be highly distressing to their families too. Hence is the need to resolve them as quickly as possible, more so in such a situation as this. A single session of Ketamine Abreaction had resolved the symptoms, in this case which not only saved an academic year for him, but also enabled him to

bounce back with flying colours in his career. Ketamine in the dose administered here is thus seen as a much swifter and safer alternative than other drugs or psychotherapeutic means.

**Acknowledgement:** Nil

**Conflict of interest:** Nil

### References

1. Simeon D, Loewenstein RJ. Dissociative Disorders. In: Sadock BJ, Sadock VA, Ruiz, Pedro, editors. Kaplan & Sadock's Comprehensive Textbook of Psychiatry. 9th Ed. Lippincott Williams & Wilkins; 2009. p. [1965-2026].
2. Golecha G.R, Sethi I.C, Misra S.L, Jayaprakash N.P. Ketamine Abreaction: A New Approach to Narcoanalysis. Indian Journal of Psychiatry. 1986 Oct-Dec;28(4):297-304.
3. Golecha G.R, Rao A.V.N, Ruggu R.K. Ketamine Abreaction - Two Case Reports. Indian Journal of Psychiatry. 1985 Oct;27(4):341-2.
4. Binzer M, Kullgren G. Motor conversion disorder – a prospective 2-5 year follow-up study. Psychosomatics. 1998;39:519–27.
5. Winstock AR, Schifano F. Disorders relating to the use of ecstasy and other 'party drugs'. In: Gelder MG, Andreasen NC, Lopez-Ibor JJ Jr, Geddes JR, editors. New Oxford Textbook of Psychiatry. 2nd ed, Vol. 1. New York: Oxford University Press Inc.; 2011. p. [499-501].
6. Ludwig, A. M., Surawicz, F. G. Restitutive therapies. In: American hand book of Psychiatry. 2<sup>nd</sup> Edition. New York: Basic books; 1975. p. [514-24].
7. Lorhan P. H, Lippmann M. A clinical appraisal of the use of Ketamine hydrochloride in the aged. Anaesthesia Analgesia (Cleve). 1971;50:448-51.
8. Janeczko E. F, Etraa E. L, Younes S. Low dose Ketamine anaesthesia for obstetrical delivery. Anaesthesia & Analgesia (Cleve). 1974;53:828-31.