

CASE STUDY

Ayurvedic Management of Apasmara (Epilepsy) - A Case Study

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ABSTRACT

According to data from recent research conducted in India, the general prevalence of epilepsy is 3.0-11.9/1,000 population, and the incidence is 0.2-0.6/1,000 population annually. The disease and its management have a significant negative influence on the afflicted person's quality of life, as well as their ability to pursue employment, education, and social recognition. In Ayurveda, the similar presentation is named as 'Apasmara' has been described along with its genesis, symptoms, diagnosis and course of treatment. The basis of available data is the clinical finding only. Aim& Objective: The purpose of this study is to evaluate the effectiveness of Ayurvedic treatment in managing Apasmara WSR-related epilepsy. Setting: Kaumarbhritya- OPD & IPD, Parul Institute of Ayurveda, Parul University, Vadodara, Gujarat, India. Method: the patient having seizure was treated without stopping current AED. Assessment was conducted prior to treatment, during treatment, after treatment and during 1 month of follow-up. Result- Ayurveda treatment is effective in the managing Apasmara and to enhance the quality of life of the affected one.

Keywords: Apasmara, Epilepsy, Anti-Epileptic Drugs, Ayurveda, Quality of life.

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INTRODUCTION

The Greek word "Epilepsia," which refers to "seiz," or to be overwhelmed by surprise, is where the term epilepsy originates. Recurrent seizures are a characteristic of epilepsy, a chronic illness that can manifest from sudden attention deficit disorder to persistent convulsions and muscular jerks [1]. Seizures are caused on by abrupt, typically transient, excessive electrical discharges in a cluster of brain cells called neurons. According to Charaka, Apasmara represents the Apagama of Smriti associated with Bibhatsa-Chesta because of Dhi and Sattva derangement [2]. Dalhana has identified Apasmara as the illness that causes Smriti to vanish during an attack [3]. The characteristics are as follows: Samplava denotes perversion or Vibhrama, Bibhatsa Chesta involves all repulsive expressions, and Tamah Pravesa is comparable to Jnana Abhava, or absence of consciousness. One of the primary causes that children visit healthcare facilities, particularly emergency rooms, is seizures. These conditions can also lead to morbidity and disability in pediatric patients- Cognitive performance, quality of life, difficulties in education, psychological morbidity, and adverse effects from anti-epileptic medications.[4] Seizures have a detrimental impact on the developing brain, particularly during infancy when brain growth is at the highest rate. In the following study, a 1-year-old girl who had been experiencing seizures for the previous 11 months visited the Outpatient Department. After trying alternative treatments and not getting the desired outcome, the patient turned to Ayurvedic medicine. There has been an apparent improvement in epilepsy symptoms with Ayurvedic management.

MATERIAL AND METHODS

1. Study design: single clinical
2. Informed written Consent taken from patient in his language before commencing the treatment.
3. For the present study, 1-year female patient having sign and symptoms of Apasmar from 10-11 months is been discussed in detail manner.
4. Criteria for assessment: Pre- and post-treatment "sign and symptoms" that the patient had.

CASE STUDY:

The parents of a one-year-old girl patient brought her to Kaumarbhritya OPD complaining of epileptic convulsions, stomach ache, and gradually manifesting symptoms such as mental agitation and trouble sleeping. After consulting with a neurophysician, he got prescribed antiepileptic medication. The patient continued to experience seizures despite taking antiepileptic medicine on a regular basis. She additionally reported feeling annoyed inattentive in her surroundings, and lethargic.

CLINICAL FINDINGS-

Twice or three times a day, the patient experienced epileptic convulsions characterized by recurrent episodes of unconsciousness, seizures, sweating, and lock jaw during the episode. One day ago, was the last convulsive episode. The first seizure occurred when the child was one month old. Seizures last two to three minutes, and there are no triggering factors associated. Lethargy is a post-ictal symptom present after the episode of seizure, lasting for 1.5-2 hours.

Past History:

The patient had a congenital abnormality of a cleft palate. For the same, surgery has been performed.

Family history: No any significant family history

Birth history: FTND, Baby did not cry immediately after birth,

H/O NICU admission for 3 weeks after birth due to Birth Asphyxia.

Birth weight: 3.2 kg

Medication History:

AEDS: 1. Levetiracetam 20mg/kg/day.

2. Phenobarbital 3mg/kg/day.

Vaccination history: All vaccination according to his age was received.

Table: 1 Grading of Signs and symptoms

1.	Severity of Attack	Grade
	Myoclonic Tremors	0
	Multifocal clonic Tremors	1
	Generalized tonic Tremors	2
	Frothing with Tounge bite	3
2.	Frequency of Convulsion	Grade
	No convulsion	0
	1 episode/ 15days	1
	1 episode/ 7 days	2
	1 or more episode per day	3
3.	Duration of Convulsion Attack	Grade
	No Convulsion	0
	5-15 Sec	1
	15-20 sec	2
	More than 20 seconds	3
4.	Ictal Features	Grade
	No any features	0
	Headache	1
	Headache with drowsiness/ Delirium	2
	Paresis with other complications	3

General Examination-Alert with normal sensorium

Vital signs:

HR- 102/min,

RR- 42/min,

BP- 60/40 mmHg

Systemic Examination

- Respiratory system: Chest bilateral symmetrical, no added sound, chest sound clear
- Cardiovascular system: S1, S2 heard normal no murmurs
- Per abdomen: Soft, no any prominent veins, no any organomegaly

Central Nervous System Examination:

1. Appearance: Alert, active

2. Behavior: Normal

3. Hallucination: No hallucinations
 4. Intelligence: Normal
 5. Consciousness: Normal
 All cranial nerves: Intact,
 Motor system: Not any deformity,
 Sensory system: Not any deformity
 Cerebellar signs: Nil,
 Signs of meningeal irritation: Nil

Therapeutic Intervention:

Table 2: Therapeutic interventions are shown

Sr. No.	Drug	Dose	Anupana	Time of Administration
1	Tab. Aurokid plus*	½ tab TDS	Saraswatarishta	After food
2	Saraswatarista	2 drops	5 ml koshnajala	At night
3	Mahakalyanaka Ghrita	1 tsp TDS	koshnajala	Afterfood

*Note: Aurokid plus Tablet is a propriatory medicine of Parul Ayurved Pharmacy, Parul University. Having contents of Swarna Bhasma, Rajata Bhasma, and Sitopaladi churna, and other herbal drugs.

ASSESSMENT CRITERIA

The assessments were done before treatment, at the end of 1st month, at the end of 2nd month and after the follow up of one month. It is based on the four parameters. Severity of attack, Frequency of attack, Duration of attack and Post-ictal features.

Follow-up and Outcomes: Post treatment changes were noted in respect to sign and symptoms there was significant clinical improvement. Effect of treatment on symptoms of epilepsy.

Table 3: Assessment Criteria are shown

Sr. No.	Assessment Criteria	BT	30 th day	60 th day	90 th day
1	Severity of Attack	2	2	2	1
2	Frequency of Convulsion	3	3	2	1
3	Duration of Convulsion Attack	3	3	2	2
4	Ictal Features	2	2	2	1

RESULTS

This case study presents findings from a short-term therapeutic intervention for epilepsy, assessed over a 90-day period using four key clinical parameters.

Interpretation of Therapeutic Efficacy (Table 3)

Elaboration: The Trajectory of Improvement

Table 3 visually captures the onset and progression of the treatment's effect across the three-month observation period.

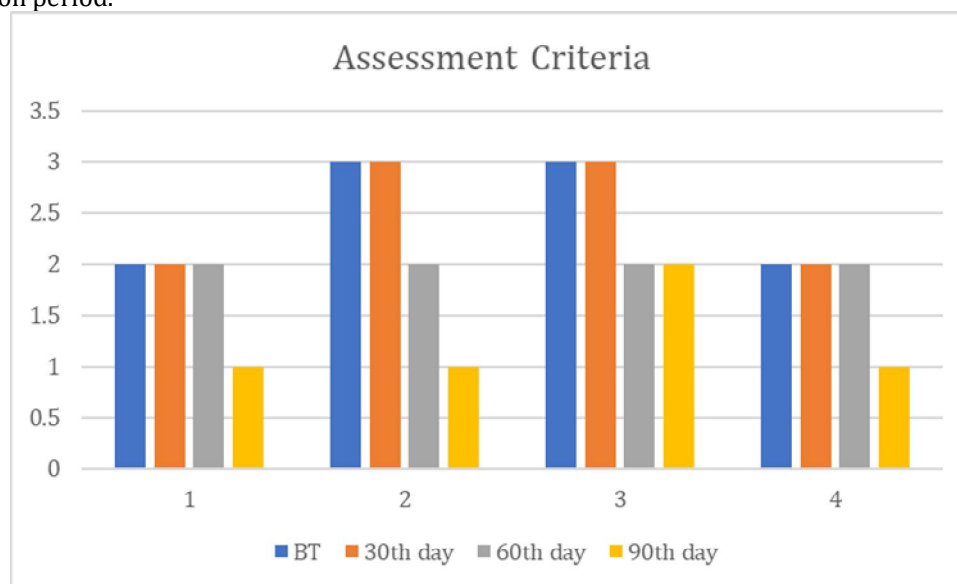


Figure 1: Result of Assessment Criteria at BT, 30th day, 60th day and 90th day

Table 3 visually captures the onset and progression of the treatment's effect across the three-month observation period.

- The scores for Severity, Frequency, and Duration of Attack all show that the intervention was ineffective during the first month (30th day), as all scores remained static compared to the Before Treatment (BT) baseline. This suggests a lag phase, possibly due to the time required to reach therapeutic plasma levels, or the slow-acting nature of the treatment itself.
- A crucial change is observed by the 60th day, where Frequency of Convulsion and Duration of Convulsion Attack both show a clear, albeit moderate, reduction (from 3 to 2). This marks the point where the treatment began to exert a measurable clinical effect on the most debilitating aspects of the seizures.
- The most significant clinical improvement is consolidated by the 90th day (after the one-month follow-up), with all four parameters showing their lowest recorded score. Severity of Attack and Ictal Features show their first improvement, moving from 2 to 1, while Frequency shows a cumulative maximum reduction, dropping to 1.

Interpretation: Non-Linear Response and Holistic Benefit

The findings suggest a non-linear treatment response, with the intervention requiring more than one month to produce noticeable efficacy, which is a common pattern in both pharmacological and non-pharmacological epilepsy treatments (e.g., Ayurvedic preparations or dose-titrated AEDs).

- The parameter Frequency of Convulsion showed the greatest magnitude of change (3 to 1), indicating the treatment was highly effective at reducing the burden of seizure occurrence, which is the primary goal of most epilepsy therapies.
- The fact that Severity of Attack and Ictal Features both dropped from 2 to 1 on the 90th day suggests a holistic improvement beyond just frequency. This implies that the seizures that *did* occur were less intense and the accompanying symptoms (Post-ictal Features) were also attenuated. This is a particularly beneficial outcome, as reduced post-ictal duration often directly translates to a better Quality of Life (QoL) for the patient, allowing faster return to daily function.

View in Light of Past Studies

Consistency with Refractory Epilepsy Studies

The gradual improvement observed in this case is consistent with findings in past studies involving patients who often present with refractory (drug-resistant) epilepsy. In such cases, treatments often do not produce immediate seizure freedom but rather a progressive reduction in seizure frequency and severity over several months as the therapeutic mechanism takes effect. This contrasts with highly effective first-line AEDs, which may show immediate impact.

Importance of Follow-up

The significant further improvement noted at the 90th day (after the one-month follow-up) strongly supports the established clinical practice of extended follow-up in epilepsy trials. Past studies frequently emphasize that the true maximum efficacy of an intervention, especially one targeting underlying pathology or brain excitability, may not be reached during the initial active treatment phase but only after a period of sustained effect.

DISCUSSION

A multi-stage, schematic pharmacological and diagnostic approach is suggested in the most recent International Guidelines and Recommendations for seizure-related diseases, particularly for the treatment of epilepsy and its associated causes in children. With a course of Ayurvedic medication, the patient in this study experienced symptom relief. *Swarna Bhasma*, *Rajata Bhasma*, *Sitopaladi churna*, and herbal drugs with anti-inflammatory action, nootropic properties and many other therapeutic effects are all included in *Aurokid plus* Tablets. *Swarna Bhasma* has been scientifically proven to have free-radical scavenging activity; in an animal study, it significantly lowers the whole brain AChE activity of both young and old mice when compared to the corresponding control group. It also helps to improve memory and cognition function, which are primarily compromised in epilepsy patients [5]. Gao et al.[6] proved that gold in nano-size particle has protective effects against Parkinson's disease. They showed that gold nanocluster inhibits the aggregation and fibrosis of α -synuclein in cell culture study (α -Synuclein protofibrils disrupt cellular homeostasis and mediate neuronal death via intracellular targets) [7]. It is thought that the nanoparticles in colloidal gold have an impact on the electrical charges generated in neurons. It enhances the normal synaptic communication that taking place between the neurons. This enhancement is believed to be responsible for the increased brain functions [8] which is affected in most cases of epilepsy. Inhibited prostaglandin synthesis, two epidermal enzymes, acid phosphatase and

tryptophangyl t-RNA synthetase, were also inhibited by gold nanoparticles [9] also describes anti-inflammatory action of Swarna Bhasma [10]. Swarna Bhasma *is* Vrishya, Brimhana, Medhya, Hridya, Balya, Rasayan, Vajikarana, Smritiprada, Tridoshaghna, Yogavahi, Chakshusya, Ojovridhikara *etc.* by all this karma of Swarna Bhasma it acts as a neuroprotective and neuronal regeneration activity is also seen. Rajata Bhasma having Anti-inflammatory, Anti-microbial and anti-oxidant [11] activity helps in Apasmara. Various karma (actions) of Rajata Bhasma mentioned are Balya, Rasayana, Medhya, Daahahara, Ayushya, Ojo Vardhaka, Vayah sthapaka *etc* [12] and by this karma it is useful in Smritinasha, Unmada, Apasmara, Nidranasha, Vatarogas, *etc* [13]. By virtue of its Smritivardhaka and Medhyakara properties, it might have shown the significant result on Memory Scale subtests. Additionally, it has been claimed that by stimulating the enzymes responsible for producing H₂S, silver nanoparticles reduce neurotoxicity and inflammation in the brain [14]. All AgNPs concentrations are showing better ABT radical scavenging activity. Further, AgNPs showed effective antibacterial action against both gram negative and gram-positive bacteria and anti-proliferative activity toward A549 human lung cancer (CCL-185) and MCF-7 human breast cancer (HTB-22) cell lines [15]. Sitopaladi churna acts as an anti-inflammatory, anti-oxidant, anti-allergic and immuno-modulatory effects. Effect of Sitopaladi churna on mast cells degranulation was studied by administering the churna in rats is reported. In animal study, Antihistaminic and anti-inflammatory activity of Sitopaladi churna extract is also reported [16]. According to the data, Sitopaladi churna reacts with hydrogen donors in extract antioxidant principles, reducing the radical to its corresponding hydrazine [17]. Saraswatarista having neuroprotective action [18] and also acts as a vehicle (Anupana) for transport of the other drugs to the target organs [19]. Saraswatarishta is a capable agent in preventive aspect and management of neuropsychiatric and neurodegenerative conditions [20]. Saraswatarista is having the components with actions like Medhya Rasayana, antistress, adaptogenic, CNS depressant, hypnotic, anxiolytic, and sedative actions. Mahakalyanak Ghrita mentioned in an Unmada chikitsa in Charaka Samhita chikitsasthan [21]. Since Mahakalyanak Ghrita functions as a Medhya and is suggested for a number of psychosomatic and psychiatric problems, it is also employed in the treatment of Apasmara. Using Go-ghrita as a vehicle, it can pass the blood-brain barrier and exhibits anti-convulsant properties. [22]. Blood brain barrier (BBB) has a lipophilic molecular structure, as Ghrita contains DHA, an omega 3 long chain polyunsaturated fatty acid, which are high concentration in brain cells too. Ghrita is known to have antioxidant property which acts upon the deteriorating brain cells and repair them [23]. Ghrita clears the Manovaha strotas pathways because of its Deepana and Pachana properties. It is believed that Vata governs the psyche. Regulating the agitated states of the mind is primarily dependent on Vata pacification. Additionally, it improves Medha and Buddhi (cognitive functions), which helps with cognitive impairment. Ghrita is regarded as the best among chaturvidha Sneha Dravyas (Ghrita, Taila, Vasa, and Majja). It is a Rasayana Dravya and promotes memory and Intelligence when consumed regularly [24]. So, likewise all these medicine effects on brain cells to decreases the symptoms of disease.

CONCLUSION

With the use of Ayurvedic medications, the patient has symptom alleviation after 90 days of treatment and shows a considerable improvement in seizure frequency and overall well-being. In summary, this case study emphasizes how Ayurveda may provide adjuvant therapeutic choices for managing epilepsy, emphasizing the value of a holistic strategy that takes consideration of each patient's unique requirements and constitution. When Ayurvedic and conventional medical experts work together, patients with epilepsy can receive improved care as well as a better quality of life.

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