

A case study of effect of dravyas from Ekasara gana on tobacco addiction withdrawal symptoms

Case Report

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Abstract

In India as well as globally smoking is a serious social and public health problem. Tobacco use is one of the biggest social and public health issues in India and around the world. In India, there are plenty of options for smoking and smokeless tobacco, including jarda, pan masala, gutka, bidi, and cigarettes. Every year, tobacco usage claims the lives of almost six millions individuals globally. The World Health Organization (WHO) estimates that tobacco smoking caused 100 million premature deaths worldwide in the 20th century. If present tobacco use rates continue, this number is predicted to climb to 1 billion in India in the 21st century. For a variety of reasons, including peer pressure, stress, alleviation, sadness, and social media ads advocating smoking, people begin to smoke or chew tobacco. The lower socioeconomic classes like and prefer tobacco more than other drugs because it is more affordable and readily available. One tobacco addicted patient tried to quit chewing tobacco, but as withdrawal symptoms, he reported having headaches, indigestion, anorexia, anxiety and body aches. The patient was treated with powder of *Punarnava* (*Boerhavia diffusa* Linn.), *Sheerisha* (*Albizia lebeck* L.) and *Sarpagandha* (*Rauwolfia serpentina* L.) *ghana vati* for his withdrawal symptoms. These are dravya's from *Ekasara gana* which helps patient to feel better by reducing their withdrawal symptoms and signs of tobacco dependence.

Keywords: Tobacco addiction, Yoga, Intoxication, *Mukhpaka*, *Vedanasthapan*.

Introduction

The tobacco consumption claims the lives of over 8 million people annually, making it one of the biggest threats to public health worldwide. Roughly 1.2 million deaths from secondhand smoke exposure are included in this figure (1). Since all tobacco products are harmful, there is no safe threshold for cigarette exposure. Cigarette smoking is the most common method of tobacco consumption in the world. Cigars, cigarillos, water pipe tobacco, and a variety of smokeless tobacco products are additional tobacco products. Large-scale medical costs associated with treating diseases caused by tobacco use as well as the loss of human capital due to morbidity and mortality associated with tobacco use are just two of the many negative economic effects of tobacco use. The nicotine alkaloid found in tobacco is present in large amount. The addictive potential of this nicotine is comparable to that of alcohol, cocaine, and morphine. It is a central nervous system stimulant. Although tobacco is a

sthavara and a patra visha(2). There is no reference about tobacco i. e. Tamraparni in samhita kala. Acharya Yogaratnakara introduced tobacco in his treatise in the chapter *Dhanyaadiphalkandshakhguna*. In his text, he describes tamakhuguna. He has discussed both the medicinal and harmful effects of tobacco. He explained that when it is used in excess, it can have a number of dangerous side effects, including intoxication, giddiness, vomiting, pitta aggravation and purgation, as well as a diminution of shukra(3). He has mentioned tobacco (tamakhu) as madakari effect which can be considered deleterious effect on the body, hence tobacco is toxic. Its tikshna and pittavardhaka characteristics cause mukhpaka, which is characterised by mouth ulcers, erosion and redness of the buccal mucosa, and burning in the oral mucosa.

Acharya Sushruta has mentioned Ekasara gana in kalpasthan. Fruits and flowers of *somarāji* (*bākucī*) *kaṭabhi*, *sindhuvāraka*, *corak varun kustha*, *sarpagandhā*, *saptalā*, *punarnavā*, flowers of *shireesha*, *āragvadha* and *yama*, *ambasthā*, *vidanga*, *āmra* (*bīja*), *aśmañtaka*, *bhūmi* (*mud*) and *kurab* these all are included in Ekasara gana (group of drugs) and may be used singly or in combination of two or three, to cure deleterious effects of the poisons(7).

The rationale of selecting *Punarnava*, *Sheerisha* and *Sarpagandha* from this gana was as per the physical and psychological symptoms developed in the patient due to tobacco chewing. *Punarnava* possess anti-inflammatory, *srotoshodhan* and *rasayana*

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properties. *Sheerisha* is hepatoprotective analgesic and well known vishaghna dravya. *Sarpagandha* reduces mental agitation and is calming.

Aim

To study the effect of *Punarnava*, *Sheerish* and *Sarpagandha* in the management of tobacco addiction withdrawal symptoms.

Materials and Methods

Place of study Private Ayurvedic OPD

Case presentation

The case study is presented here to show the effect of *Sheerish*, *Punarnava* and *Sarpagandha* (Ekasara gana dravyas) on tobacco addiction and withdrawal symptoms.

Patient’s information

38-year-old hindu male, without diabetes and no history of hypertension went to private ayurvedic clinic, with the complaints listed below.

Chief complaints

Burning sensation, redness of oral mucosa, oral ulcer from last 15 days.

History of Present illness

Prior to three weeks, the patient had no complaints and seemed to be in good health. He gradually became aware of the burning sensation, redness in the mouth, and oral ulcer in last 15 days. Patient tried to stop Tobacco chewing but with this he developed body pain, constipation, insomnia, irritation, anorexia and indigestion as withdrawal symptoms. Later he visited to private ayurvedic clinic on OPD basis, on 10/1/2024, for the same and started treatment.

Previous history of any illness

No significant history noted.

Addiction history

Patient using tobacco for 20 years. His daily tobacco consumption was 20- 25 g (4– 5 pouches).

Family history

Father also was a cigarette addict.

Hetu

Intake of tobacco (patient had no history of any other ailment and the symptoms are associated with incidence of tobacco chewing).

Table 1: Personal history

Name-PQR	Bala-Madhyam (average)	Prakriti -Pittakaph
Age-38	Agni-Visham	Weight-60kg
Sex –Male	Addiction – tobacco	Height -169 cm
Occupation– worker	Bowel habit (Koshtha)- irregular	BP-116/78mmHg
Marital status- Married	Sleep-Nidranash (Insomnia)	

Table 2: Ashtavidha Pariksha

Nadi (Pulse)- 82/min	Shabda (speech)- Prakrit
Mala –Baddhamalapravrutti (constipation)	Sparsh- Prakrit
Mutra –Prakrit	Drik- Prakrit
Jivha (Tongue) –Sama (whitish coated)	Akruti- Madhyam

Table 3: Indriya parikshan

Tvaka (skin)– No abnormality detected	Vaak (oral cavity)- Mukhpak (oral ulcer)
Netra (eye)- No abnormality detected	Paani – No abnormality detected
Ghran (nose)- No abnormality detected	Paad- No abnormality detected
Rasana (tongue)-Sama	Payu- No abnormality detected
Karna (hearing ability)-No abnormality detected	Upastha (genitals)- No abnormality detected

Treatment Plan

The patient was treated on OPD basis

Ayurvedic Management of Addicted Patient of Tobacco-

1. Powder of *Punarnava* and *Sheerisha* 1g each twice a day for 1 month.
2. *Sarpagandha* Ghana vati 250 mg twice a day for first 7 days;then once a day for next 7 days.

Follow up

Patient was called for follow up on day 8th, 15th and 30th.

First visit -10/01/2024

- 1st follow up 18/01/2024
- 2nd follow up 25/01/2024
- 3rd follow up 9/02/2024

Table 4: Properties of drugs (4)(5)

S. N.	Name	Family	Botanical name	Rasa	Guna	Veerya	Vipaka
1	<i>Punarnava</i>	Nyctaginaceae	<i>Boerhavia diffusa</i> Linn.	Katu Kashaya	Laghu, Ruksha	Ushna	Katu (11)(15)
2	<i>Sheerish Pushpa</i>	Mimosoideae	<i>Albizia lebbeck</i> (L.) Benth	Kashaya, Madhura Tikta,	Laghu, Ruksha Tiksa	Ishad Ushna	Katu(8)(16)
3	<i>Sarpagandha</i>	Apocyanaceae	<i>Rauwolfia serpentine</i> (L.)Benth. x Kurz.	Tikta	Ruksha, Laghu	Ushna	Katu(13) (17)

Table 5: Assessment Criteria (6)

Clinical feature	Symptom	Grade
1. Instant craving for Nicotine	Within 5 min	3
	Within 1 hrs	2
	Within 4 hrs	1
	No craving	0
2. Body pain	Bed rest required	3
	Interference with task	2
	Can be ignored	1
	No pain	0
3. Oral ulcer	No of ulcer 5-10	3
	No of ulcer 3-5	2
	No of ulcer 1-3	1
	No ulcer	0

Anxiety

Table 6: Generalised Anxiety Disorder 7- items (GAD-7) (18)(19)-

Over the last two weeks, how often have you been bothered by the following problems?				
	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious, or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid, as if something awful might happen	0	1	2	3

0–4: minimal anxiety, 5–9: mild anxiety, 10–14: moderate anxiety, 15–21: severe anxiety

Table 7: Constipation – Constipation Scoring System (20)

Parameters	Score
Frequency of bowel movements	
1-2 times per 1-2 days	0
2 times per week	1
Once per week	2
Less than once per week	3
Less than once per month	4
Difficulty: painful evacuation effort	
Never	0
Rarely	1
Sometimes	2
Usually	3
Always	4
Completeness: feeling incomplete evacuation	
Never	0
Rarely	1
Sometimes	2
Usually	3
Always	4
Pain: abdominal pain	
Never	0
Rarely	1
Sometimes	2
Usually	3
Always	4
Time: minutes in lavatory per attempt	
Less than 5	0
5-10	1
10-20	2
20-30	3
More than 30	4
Assistance: type of assistance	
Without assistance	0
Stimulative laxatives	1
Digital assistance or enema	2
Failure: unsuccessful attempts for evacuation per 24 hours	
Never	0
1-3	1
3-6	2
6-9	3
More than 9	4
History: duration of constipation (years)	
0	0
1-5	1
5-10	2
10-20	3
More than 20	4
Total score	

The score, if greater than 15, out of a total value of 30, is diagnostic of intestinal chronic constipation.

Observation and Result

Table 8

No	Findings	0 th day (10/01/2024)	8 th day (18/1/2024)	15 th day (25/01/2024)	30 th day (9/02/2024)
1	Instant craving for Nicotine	3	2	1	1
2	Body pain	3	2	1	0
3	Oral ulcer	1	1	0	0

The focus was on only the withdrawal symptoms so oral ulcer size has not mentioned.

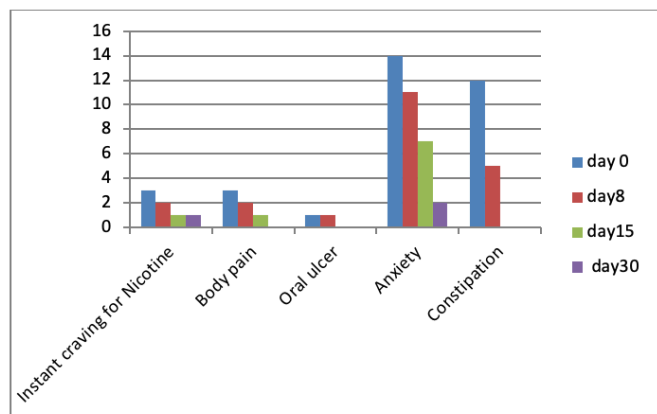
Table 9: Anxiety

Over the last two weeks, how often have you been bothered by the following problems?	0 th day 10/01/2024	8 th day 18/01/2024	15 th day 25/01/2024	30 th day 9/02/2024
1. Feeling nervous, anxious, or on edge	3	3	2	1
2. Not being able to stop or control worrying	1	1	1	1
3. Worrying too much about different things	1	1	1	0
4. Trouble relaxing	3	2	1	0
5. Being so restless that it is hard to sit still	3	2	1	0
6. Becoming easily annoyed or irritable	3	2	1	0
7. Feeling afraid, as if something awful might happen	0	0	0	0
Total score	14	11	7	2

Table 10: Constipation

	0 th day 10/01/2024	8 th day 18/01/2024	15 th day 25/01/2024	30 th day 9/02/2024
Frequency of bowel movements	1	0	0	0
Difficulty: painful evacuation effort	2	1	0	0
Completeness: feeling incomplete evacuation	3	1	0	0
Pain: abdominal pain	2	1	0	0
Time: minutes in lavatory per attempt	2	1	0	0
Assistance: type of assistance	1	0	0	0
Failure: unsuccessful attempts for evacuation per 24 hours	1	0	0	0
Total score	12	5	0	0

Graph 1: Changes in the symptoms before and after treatment



In this present case, on day first, patient had complaints of instant craving for nicotine, anxiety, constipation, body pain and oral ulcers. Hence he started following treatment.

They came for follow up after month one month (13/03/2024) since stopping the treatment as he had to go out of station. At this time he reported that minimum craving for nicotine and hence minimum anxiety present on and off. Rest of his symptoms (constipation, body pain and oral ulcer) did not show any relapse.

Figure 1: Changes in the oral ulcers

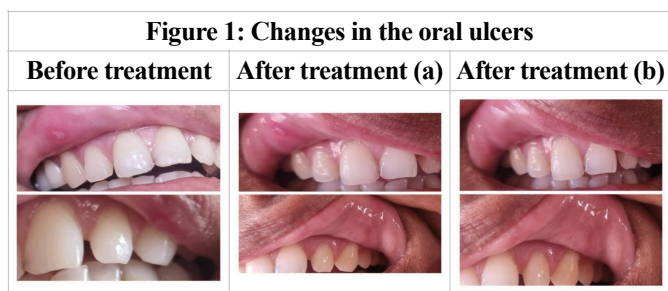


Table 11: Treatment schedule

Day	Symptoms	Treatment
1 st day	Instant craving for nicotine, anxiety, insomnia constipation, body pain and oral ulcers	1. Powder of <i>Sheerish</i> and powder of <i>Punarnava</i> 1g each twice day 2. <i>Sarpagandha ghanavati</i> 250 mg twice day for 1 wk
8 th day	Instant craving for nicotine, anxiety, insomnia, constipation, body pain and oral ulcers mild decreases	1. Powder of <i>Sheerish</i> and powder of <i>Punarnava</i> 1g each twice day 2. <i>Sarpagandha ghana vati</i> 250 mg once a day for 1 wk
15 th day	Instant craving for nicotine, anxiety, body pain present. Oral ulcer and constipation cured. Insomnia is reduced.	1. Powder of <i>Sheerish</i> and powder of <i>Punarnava</i> 1g each twice day for next 15 days. 2. <i>Sarpagandha ghana vati</i> 250mg was stopped.
30 th day	Mild craving for nicotine and mild anxiety present	<i>Sheerish</i> and <i>Punarnava</i> powder was discontinued. Counseling done on tobacco de-addiction.

Discussion

The symptoms of constipation, body pain and oral ulcer reduced completely i. e. 100% with the treatment given for 30 days. Only craving for tobacco, anxiety did not go completely. And hence a minimum anxiety remained which actually reduced significantly on GAD7 scale (14 to 2 i. e. 86. 66%).

Every component of Ekasara gana has an antitoxic property. Acharya Sushruta has mentioned Ekasara gana in kalpasthan adhyaya fifth. The drugs in Ekasara gana have anti poisonous effect when used as single, two or mixture of three drugs(7). Acharya Yogratnakar has

mentioned tamraparni (tobacco). He has mentioned tobacco (tamakhu) in tamakhuguna first chapter fifth shloka as madakari effect which can be considered deleterious effect on the body, hence tobacco is toxic. The *Punarnava*, *Sheerisha* and *Sarpagandha* from Ekasara gana used for the symptoms developed in the patient due to tobacco chewing.

Sheerish has hepatoprotective effects. It also possesses anti-inflammatory, anti-allergic, analgesic and anti-asthmatic properties. Acharya Sushruta and Acharya Charak recommended *Sheerish* as the best *Vishaghna* (anti-toxic drug)(21). The characteristics of *Sheerish* were observed to include its tridoshshamak status, as well as attributes properties like shothahara (anti inflammatory), venanasthapa (analgesic), enhancer of the complexion (varnya) anti-poisonous (vishaghna), and blood cleanser (raktashodhaka). *Shirish* has kashaya and tikta rasa, according to its pharmacodynamics. Tikta rasa has an antitoxic quality by itself, while kashaya rasa aids in the healing process, reduces swelling and eruption, boils. It is good tonic so useful in anorexia (8). *Sheerish* contains many alkaloids, flavonoids, tannin, saponin. Due to its antipoisonous, antifungal anti-inflammatory and analgesic activity is useful in healing the mouth ulcers and reduces body pain(9).

Punarnava is well-known for its diuretic and anti-inflammatory qualities. It acts as *vishdoshhara*, *shothaghna*, *pittajanya vikarhara*(10). Its hepatoprotective, antifungal, and anti-diabetic properties are proved. *Punarnava* purifies the body by eliminating *doshas* and *mala* from the *dhatu* (tissues) and reopens the channels (*shrotasas*) and provides them with the proper nourishment, which has a wonderful restorative (rasayana) effect. It has *deepan* and *anuloman karma* hence; increases appetite, also acts as a mild laxative, and is good as a general tonic (11). It also possesses diaphoretic action, it reduces swelling and foul smelling in skin disorders (12).

Sarpagandha is antitoxic and has a very good anti-hypertensive activity. It is calming, effectively reduces mental agitation and insomnia. It also acts as a catalyst to *sadhaka pitta* and imparts a nervine activity, hence it works in mental stress and insomnia(13). It is also used in gastrointestinal disorders like anorexia, abdominal pain by destroying *ama* and eliminating *vata* from guts. It has *ushna veerya* (potency) and tikta rasa hence it acts as appetizer and helps in appetite(14).

Antipoisonous and anti inflammatory action of *Sheerish*, *Punarnava* and *Sarpagandha* helped in reducing oral ulcer. The *vedanasthapana* (analgesic) action of *Sheerish* and *Sarpagandha* helped in reducing body pain(8)(14). The combined effect as *deepan*, *pachan* and *anuloman karma* of *Punarnava* and *Sarpagandha* helped in increasing appetite (11)(12). *Punarnava* by its laxative action reducing constipation. Rasayana effect of *Punarnava* helped in mental strength of patient (11). The calming action of *Sarpagandha* helped in reducing anxiety, mental stress and insomnia. As *Sarpagandha* can act as depressant when used long term so we can use it by intermittently to overcome anxiety factor.

The Patient perspective- The patient felt relief in all the physical symptoms and hence was happy. These symptoms did not relapse after one month of stopping the treatment. Some times the craving for tobacco is bouncing back and he has to control it with efforts which creates temporary minimum anxiety but the frequency of craving episodes has reduced and is under control. Over all the patient was satisfactory and started believing on ayurvedic treatments.

This case study gives a directive that there can be an effective remedy in managing the addiction like tobacco chewing with the help of simple combination of ayurvedic drugs.

Conclusion

This is single case study of tobacco addiction withdrawal symptoms. Ayurvedic dravyas *Sheerish* *Punarnava* and *Sarpagandha* from Ekasara gana were used successfully to treat a patient who was addicted due to tobacco. It has been established that these drugs may help to lessen negative effects of addiction. In addition to all of this, these drugs also improve mental, physical, well being. It also additionally helped in improving patient's social and economic standing.

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