



Analysis of *Patala Paneeya Kshara*

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ABSTRACT

Ksharas are alkaline substances derived from plant drug ashes in the form of crystals or solutions. *Kshara* is classified into *pratisaraneeya* and *paneeya* according to mode of administration. In *Salyatantra*, *ksharas* are the best among *sastra* and *anusastra*. Internal administration of *kshara* (*paneeya kshara*) is indicated in several *mutraroga*. *Patala paneeya kshara* is widely advised in treatment of *mutrakrichra*, *asmari* and *mutraghata*. *Sophaharara*, *tridoshahara* properties of drug *patala* along with indigenous properties of *kshara* makes this drug beneficial in *mutraroga*. Analysis of *patala paneeya kshara* helps to obtain more scientific knowledge about pharmacological action of the formulation as such and pave a light in the treatment of several diseases. Analysis showed high alkalinity of drug with pH 12.29 and the most predominant ion was potassium.

Key Words: *Patala Paneeya Kshara*, drug analysis

INTRODUCTION

The term *kshara* was derived from the root '*kshar*'. *Kshar syandane* means to melt away or to perish. According to Acarya Susruta, *kshara* is the substance which removes unwanted tissues like *dushta twak*, *mamsa* etc. *Kshara* is the best among *sastra* and *anusastra* by Acarya Susruta.

According to mode of administration *kshara* is broadly classified into *pratisaraneeya* and *paneeya kshara*. Acarya Dalhana explains that *pratisaraneeya kshara* is for *pratisarana* i.e. lepana and *paneeya* is for *pana* i.e. internal administration¹. In Bhavaprakasa, *pratisaraneeya kshara* is specifically mentioned for purposes like lepana². According to its potency *pratisaraneeya kshara* is again divided into *mrdu*, *madhyama* and *tikshna kshara*. Vagbhata in Ashtanga Samgraha,

use the term *bahiparimarjana* and *antahparimarjana* respectively³.

Paneeya kshara

Dalhana explains that *paneeya kshara* can be used in form of *ksharodaka*, or it can be used in formulations like *curna*, *vataka*, *avalaehas* according to the respective diseases⁴.

Indication

Acarya Susruta indicated *paneeya kshara* in *gara*, *gulma*, *udara*, *agnisanga*, *ajeerna*, *arocaka*, *anaha*, *sarkara*, *asmari*, *abhyantara vidradhi*, *krimi*, *visha*, *arsa*.

Contraindication of kshara

Acarya Susruta contraindicated *kshara* in *raktapitta*, *jwara*, *pittaprakrti*, *bala*, *vruddha*, *durbala*, *bhrama*, *mada*, *murcha* and *timira*. It is also contraindicated in, fearful, those who are



suffering from swelling all over body, bleeding disorders, pregnancy, women during menstruation, high fever, diabetes, emaciation, thirst, in persons with retroversion or introversion of uterus, vaginal prolapse. *Kshara* should not be applied on *marma*, *sira*, *snayu*, *sandhi*, *cartilages*, *sevani*, *dhamani*, *gala*, *nakhantha*, *nabhi*, *srotas*, *akshi* and in less muscular areas. Even if the disease is treatable with *kshara*, it will not succeed in persons with *soonagatra*, *asthisoola*, *annadwasha*, *hrdaya* and *sandhipeeda*.

Patala Paneeya Kshara

In Ayurveda classics, there are references about several *paneeya kshara*. Among them *patala paneeya kshara* is an important one. In Ayurveda, *mutrarogas* are included in 3 headings; *mutrakrichra*, *asmari* and *mutraghata*. In the treatment of these there are references about the usage of *patala paneeya kshara*. *Kledavahana* is the principle function of *mutra* in *sareera*⁵. There is intimate relation of *mutra* and *kleda*. So in pathogenesis of *mutra rogas*, *kleda* finds a potential role. Therefore a formulation which can correct this will be beneficial to use. Hence *kshara* finds its importance.

Patala is one among the *ksharagana* mentioned by Acarya Susruta and is also included in *sophahara mahakashaya* mentioned by Acarya Caraka⁶. *Patala* is one among in *dasamoola*. Also included in *aragwadhadi gana* by Acarya Vagbhata.

Patala was identified as *Stereospermum suaveolens* DC (Fig. 1) in Ayurveda Pharmacopeia of India. It belongs to the family Bignoniaceae.



Figure 1. *Patala* (*Stereospermum suaveolens* DC)

In Ayurvedic Pharmacopoeia of India, the properties and action of drug *patala* is described as,

Rasa: Tikta, Katu, Kashaya, Madhura

Virya: Ushna

Guna: Guru, visada

Vipaka: Katu

*Karma: tridoshahara, hrdaya, dipana, trshaghna, raktadoshahara, vishaghna, rasayana, adhobhagadoshahara*⁷.

MATERIALS AND METHODS

Preparation of Patala Paneeya Kshara

Drug preparation was done according to the reference in *Rasa Tarangini*⁸.

The drug *patala* was identified. Pure samples of *Patala twak*, *saka* were collected and dried. They burnt well and ash was collected (Fig.2). Ash immersed in 4 times of water and stirred for 1yama (3 hours). Then the solution filtered through a 3 layered cloth for seven times and the same was



heated upto complete evaporation of water and the remaining solid part which was white in colour was collected (Fig.3). *Ksharas* are generally hygroscopic in nature and become slimy when it comes in contact with atmosphere. So the prepared *kshara* was kept in an air tight container. Acarya Susruta advised to keep *kshara* in vessels of iron.

The sample of the drug (15gm) was sent to CARE Keralam, limited, Thrissur, Kerala and analyzed (Fig.4). Higher metal content was analyzed to make sure about the drug safety parameter. Other physical and chemical parameters like pH, acid insoluble ash, loss on drying, total ash were carried out. Estimation of ions also done.



Figure 2 Bark of *Patala* and ash obtained after burning

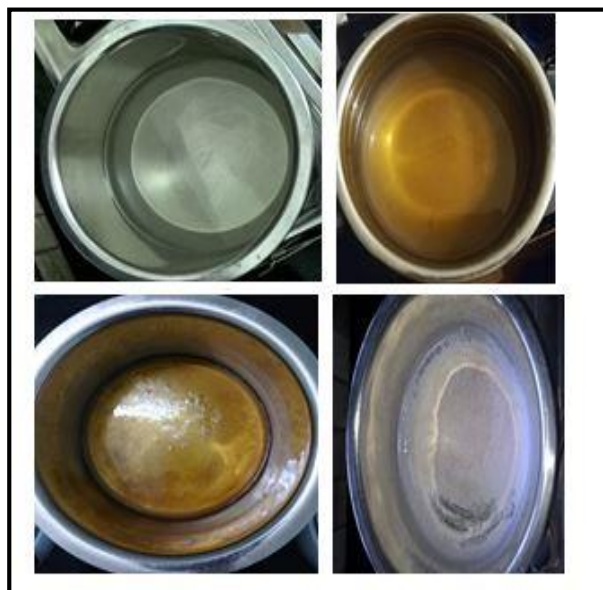


Figure 3 Preparation of *Patala Paneeya Kshara*
Analysis of *Patala Paneeya Kshara*

RESULTS

The higher metal content of the drug was found to be in normal level making safe drug intake (Arsenic and cadmium were at below detectable level, lead- 0.05mg/kg, mercury – 0.09mg/kg, iron – 21.67mg/kg). Ions detected from the study were potassium – 48.78%, sodium – 6.29%, calcium – 0.54%). pH obtained was 12.29. Acid insoluble ash obtained was 1.20%, loss on drying was 2.12% and total ash obtained was 96.22%.

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Date : 20-03-2020

Test Report No : CKI/20/W2633 **TEST REPORT**

➤ Name of Manufacturer : Dr Anju M S

➤ Customer Address : 3rd M.S PG Scholar, Dept. of Salyatantra Govt. Ayurveda College & Hospital Tripunithura, Ernakulam-682 305

➤ Manufacturing License no. : Not Mentioned

➤ Test Requisition No. & Date : LWC1241 & 06-03-2020

➤ Date of Sample Received : 06-03-2020

➤ Sample Analysis Date : 10-03-2020 To 20-03-2020

➤ Sample Name : Patala Ksharam(Alkaline Preparation of stereospermum suaveolens DC)

➤ Sample ID : W2633

➤ Batch No : Not Mentioned

➤ Batch Size : Not Mentioned

➤ Date of Manufacturing : Not Mentioned

➤ Date of Expiry : Not Mentioned

➤ Quantity of Sample Received : 15 gm

➤ Sample Drawn by : The Party

➤ Sample Condition : Received in good condition

➤ Sample Description : White Coloured Powder

Sl.No.	Parameters	Result	Specification	Detection Limit	Test Method
1	Arsenic	BDL	NMT 3.0 mg/ kg	0.05 mg/ kg	CKL/ANL/AY- 008
2	Cadmium	BDL	NMT 0.3 mg/ kg	0.05 mg/ kg	CKL/ANL/AY- 008
3	Lead	0.05 mg/kg	NMT 10.0 mg/ kg	0.05 mg/ kg	CKL/ANL/AY- 008
4	Mercury	0.09 mg/ kg	NMT 1.0 mg/ kg	0.05 mg/ kg	CKL/ANL/AY- 008
5	Iron	21.67 mg/kg	-	0.05 mg/ kg	CKL/ANL/AY- 008
6	Potassium as K	48.78 %	-	-	AOAC 21 st Edn 2019
7	Sodium as Na	6.29 %	-	-	AOAC 21 st Edn 2019
8	Calcium as Ca	0.54 %	-	-	AOAC 21 st Edn 2019
9	pH (10 % aqueous solution)	12.29	-	-	API Part 1, Vol 1
10	Acid Insoluble Ash	1.20 %	-	-	IP 2018
11	Loss on Drying	2.12 %	-	-	API Part 1, Vol 1
12	Total Ash	96.22 %	-	-	IP 2018

Total Number of Determination: 12 only

Meerabai P.K.
Authorized signatory
Meerabai P.K.
(Sr. Analyst)

Note: The test results relate only to the sample tested. The report does not represent an endorsement or a guarantee of the quality of the product.

Figure4 Analysis of *Patala Paneeya Kshara*



CONCLUSION

From the analysis it is evident that the drug is safe for internal administration. The carbonates in *kshara* are predominantly of potassium. Sodium in carbonate form is also present. These may act as alkalizers. pH of the drug was found to be 12.29 indicating strong alkaline nature of the drug. In *asmari* and *mutrakrichra* maintenance of urine pH at appropriate level is an important treatment strategy. In short all these properties of drug can be effectively used in the treatment of *mutrarogas* like *asmari*, *mutrakrichra* and *mutraghata*.

Action of other ingredients like iron and calcium should be studied which may help in management of other *kshara sadhya vyadhis*. Thus this work will be beneficial in future for further research studies in this area.



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