

## COMPARATIVE PHARMACEUTICAL STUDY ON KADALI KANDA KHASRA WITH SPECIAL REFERENCE TO ITS FINAL PRODUCT QUANTITY & pH

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### ABSTRACT

Herbal source of origin of dravyas are utilized most of the time in ayurveda traditional system of medicine. Though minerals & metals source of origin too used but frequency was less, but soon after development in rasashastra 7-8 century onwards increased. Kshara is one of the forms of medicine which is alkali in nature used for internal as well as external. Pharmaceutical point of view kshara water soluble extract of ash of herbs. Different pharmaceutical methods being noted in different classical books of ayurveda medical science In the present study kadali kanda kshara was prepared by three different methods i.e Rasatarangini, Shushruta Samhita & Sharangdhara samhita. The duration required to prepare it, its pH of final products was recorded and compared with each other. Rasatarangini Method to prepare kadali kanda Kshara considered to good as compared to other two methods duration consumed was less. Sushruta method followed sample took 22 days duration which was longest among the all three methods. Quality point of view in terms of pH all the three samples were recorded almost same pH.

**KEYWORDS:** Kadali Kanda, Kshara, PH, Duration.

## INTRODUCTION

In the present time, herbs & their products are gaining importance as medicinal products, nutraceuticals and cosmetics.<sup>[1,2]</sup> Herbal medicines are widely used and recommended in health-care point of view in both developed and developing countries. World Health Organization estimate that around 80% of the world population still uses herbs and other traditional medicines for their primary health care needs.<sup>[3]</sup> The use of herbal medicines has increased remarkably that to after 2019 pandemic incidence COVID in line with the global trend of people returning to natural therapies.<sup>[4]</sup> Ayurveda which is one of the Indian system of medicine one can observe utilization of different herbs in different dosage forms successfully in therapeutics.

The substance that removes the vitiated material from skin, flesh etc. (Dusta Tvag masadi) or the substance, which detoxify the Dosha (bodily humour), Dhatu (tissues) and Mala (excreta) is known as Kshara.<sup>[4]</sup> According to the Ayurvedic Formulary of India, Kshara are alkaline substance obtained from the ash of drugs.<sup>[5]</sup> Kshara is generally prepared from herbs. Kshara is recommended to use internal administration as well as external application. Pharmaceutical methodology is noted 1st time in sushruta Samhita and books written after the period of sushruta Samhita example Sharngadhara Samhita,<sup>[6]</sup> Rasatarangini,<sup>[7]</sup> Dravyaguna Vigyana<sup>[8]</sup> and Ayurveda Sara Samgraha.<sup>[9]</sup> Though its available in many classical books but duration point of view difference of opinion can be noted.

In the present study kasha is prepared by following three different methods and as it is alkali in nature hence its pH value will be noted in the lab to evaluate its potency.

## MATERIAL AND METHOD

In the present study kadali kanda kshara was prepared by following 3 different methods.

**Materials:** For all the three methods kadli kanda, water, container pH meter beakers formed the materials.

**Method:** To prepare kshara three different methods were followed according to Rasatarangini,<sup>[10]</sup> sushruta Samhita<sup>[11]</sup> & sharngadhara Samhita.<sup>[12]</sup>

**Method I (Sample- I):** Methodology mentioned in Rasatarangini followed. Raw kadali kanda was dried and burnt & weight was noted. To this known quantity of Ash mixed with 4

**times** water & stirred well Kept for **1 yama (3 hour)**. Afterword's supernatant layer of water drained out at the same time it was filtered to avoid ashes powder along with supernatant water collected. Thus, collected water's boiled till complete water content evaporates & only solid kshara powder remains.

**Method II (Sample- II):** Methodology mentioned in Sushruta followed. Raw kadali kanda dried and burnt & weight was noted. To this known quantity of Ash mixed with **6 times** water & stirred well Kept for overnight. Next day morning supernatant layer of water drained at t the same time filtered to avoid ash particles along with water. Later on again 6 times of water added and stirred, next day morning draining procedure repeated. This kind of filtration repeated for **21 times**. Thus, collected water's boiled till complete water content evaporates & only solid kshara powder remains.

**Method III (Sample- III):** Methodology mentioned in Sharangadhara Samhita followed. Raw kadali kanda dried and burnt & weight was noted. To this known quantity of Ash mixed with **4 times** water & stirred well Kept for overnight period. Afterword's supernatant layer of water drained out at the same time it was filtered to avoid ashes powder along with supernatant water collected. Thus, collected water's boiled till complete water content evaporates & only solid kshara powder remains.

## RESULTS

**Table no 1: shows quantity of raw kadali kanda, ash, water added, duration, Final quantity of kshara obtained in pharmaceutical procedure of Sample I.**

Sl no	Raw Kadali wet	Raw Kadali dry	Ash	Water quantity	Duration	Kshara	pH
1	75 kg	7 kg	800 grm	3.2 lts	3 hours	160 grms	11.38

**Table no 2: shows quantity of raw kadali kanda, ash, water added, duration, Final quantity of kshara obtained in pharmaceutical procedure of Sample II.**

Sl no	Raw Kadali wet	Raw Kadali dry	Ash	Total Water quantity	Duration	Kshara	pH
1	90 kg	8.5 kg	910 grm	126 lts	22 days	675 grms	11.33

**Table no 3: shows quantity of raw kadali kanda, ash, water added, duration, Final quantity of kshara obtained in pharmaceutical procedure of Sample I.**

Sl no	Raw Kadali wet	Raw Kadali dry	Ash	Total Water quantity	Duration	Kshara	pH
1	80 kg	7.4 kg	800 grm	3.2 lts	1 day	145 grms	11.34

## DISCUSSION

In the present study kshara was prepared with three different methods by using the kadali kanda. During this pharmaceutical procedure the duration & pH were noted and analyzed to assess quality, quantity & duration of the final product kadli kanda kshara.

Ash and water ratio followed in Sample I & III was 1: 4 and in Sample II was 1: 6. Duration taken in pharmaceutical procedure of Sample I was approximate 8 hour, in Sample II approximate 22 days and in Sample III was 1 day. Final product quantity wise Sample I was 160 grms Sample II was 675 grms and sample III 145 grms. pH of all three samples were 11.3, 11.34 & 11.4 respectively.

By observing above findings principle adopted to prepare kshara is same hence there was not much variation was noted on quality i.e in terms of pH. Which denotes the all samples possess kshareeya property.

By observing duration of all the methods Sushrutas method took more time compared to others two methods. Hence in that method maximum quantity of water was used as well as maximum quantity of kshara obtained.

By this study it can be recommended to prepare kshara in short time period rasatarangini method is advisable but at the same point quantity of final product concerned sushruta method is recommended.

Though all the three samples have shown similar pH with slight variation has given scope to verify its clinical efficacy in clinical trials.

## CONCLUSION

Kadali kanda kshara was prepared by following three different methods. Quality concern all the three methods are similar quality product (considering pH of final product) and quantity concern rasatarangini method stands first (duration & quantity of final product) compared to other two methods.

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**REFERENCES**

1. Bhanu PS, Zafar R, Panwar R. Herbal drug standardization. *Indian Pharm*, 2005; 4: 19-22.
2. Gautam V, Raman RM, Ashish K. Exporting Indian Healthcare (Export potential of Ayurveda and Siddha Products and Services). Road Beyond Boundaries (The Case of Selected Indian Healthcare Systems). Export-Import Bank of India. Mumbai, 2003; 14-54.
3. WHO. Int. World Health Organization, WHO; 2012. Available from: <http://www.who.int/mediacentre/factsheets/2003/fs134/en/> Last accessed on: 09-06-2015.
4. Vaidya AD, Devasagayam TP. Current status of herbal drugs in India: An overview. *J Clin Biochem Nutr*, 2007; 41: 1-11.
5. Ambikadatta S, editor. *Susruta Samhita of Maharsi Susruta, Sutra Sthana; Ksharapaka Vidhi*. Ch. 11, Ver. 13. Varanasi:Chaukhambha Sankrita Sansthan, 2010; 47-8.
6. Vidhyasagar PS, editor. *Sharangadhara Samhita of Sharangadhara, Madhyama Khand*. 1st ed., Ch. 11, Ver. 101-104. Varanasi: Choukhamba Surbharti Praka, 2006; 256.
7. Shastri K, editor. *Rasa Tarangini of Sadanada Sharma, Taranga 14*. 11th ed., Ver. 59-61. New Delhi: Motilala Banarsidas, 2004; 337.
8. Anonymous. *Dravyaguna Vigyana of Yadavji Trikamji Acharya, Uttarardh, Adhyaya 2*. 6th ed., Ver. 102-104. Nagpur: Shree Baidhyanath Ayurveda Bhavan Li, 2013; 61.
9. Anonymous. *Ayurved Sar Samgraha, Kshara-lavan-satva Prakarana*. Alahabad: Shree Baidhyanath Ayurveda Bhavan Li, 2013. p. 697.
10. Shastri K, editor. *Rasa Tarangini of Sadanada Sharma, Taranga 14*. 11th ed., Ver. 59-61. New Delhi: Motilala Banarsidas, 2004; 337.
11. Sushruta Ambikadatta S, editor. *Susruta Samhita of Maharsi Susruta, Sutra Sthana; Ksharapaka Vidhi*. Ch. 11, Ver. 13. Varanasi: Chaukhambha Sankrita Sansthan, 2010; 47-8.
12. Sharangadhara Vidhyasagar PS, editor. *Sharangadhara Samhita of Sharangadhara, Madhyama Khand*. 1st ed., Ch. 11, Ver. 101-104. Varanasi: Choukhamba Surbharti Praka, 2006; 256.