



## PROSPECTIVE OF *KSHARA* AS A *PACHAN DRAVYA* BEFORE *SAMSODHANA KARMA*: AN AYURVEDIC REVIEW

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### ABSTRACT

The research delves into *Kshara*, an alkaline substance from medicinal plants, as a potent digestive agent in Ayurveda. It draws from ancient texts, especially Acharya *Sushruta's*, to explore *Kshara's* preparation, properties, administration, and therapeutic indications, particularly in *Pachana Chikitsa* before purification therapy. *Kshara's* properties, including *Ushna*, *Teekshna*, and *Saumaya*, make it effective for wounds, fistula, skin diseases, and digestive ailments. Categorizing *Kshara* into external and internal forms based on administration is emphasized, with detailed guidelines for preparation and dosage. The study elaborates on the role of *Pachana Dravyas* in Ayurvedic therapies, stimulating gastric secretion, enhancing digestive enzyme activity, and promoting bile flow. It stresses *Pachana's* role in preparing for purification therapy, kindling Agni, eliminating *Ama*, and facilitating *Doshas'* smooth passage. In conclusion, the article advocates integrating *Kshara* as a pivotal *Pachan Dravya* in Ayurvedic protocols, especially in the preparatory phase of *Samsodhana Karma*. By restoring digestive balance and eliminating metabolic waste, *Kshara* promises holistic wellness and prevents modern ailments. Its comprehensive understanding underscores its potential in Ayurvedic practice, offering insights into traditional wisdom for contemporary healthcare.

**KEYPOINT:** *Kshara*, *Pachana Dravyas*, *Samsodhana Karma*, *Pratisaraneeya*, *Paneeya*.

### INTRODUCTION

*Kshara*, an alkaline and potent substance derived from the ashes of various medicinal plants, holds a significant place in traditional medicine. Unique to his teachings, Acharya *Sushruta* dedicated a comprehensive chapter, known as *Kshara Paka Vidhi Adhyaya*, solely to the intricate processes involving *Kshara*. Within this chapter, Acharya *Sushruta* meticulously elucidates the preparation and application of *Kshara*, shedding light on its remarkable properties and effects on the body. The term "*Kshara*" aptly describes this substance, as it induces *Ksharana*, or tissue breakdown, particularly affecting the *Mamsa* and other vital *Dhatu*s of the body.<sup>[1]</sup>

According to Acharya *Sushruta*, the essence of *Kshara* can be defined as any substance possessing the inherent qualities of *Ksharana* and *Kshana*, signifying its ability

to induce tissue dissolution and destruction.<sup>[2]</sup> *Kshara* holds a distinguished position as one of the *UpakrAmas*.<sup>[3]</sup> utilized in the treatment of wounds.<sup>[4]</sup> and classified as an *Anushastra*. Its versatility in performing various actions such as excision (*Chedana*), incision (*Bhedana*), and scraping (*Lekhana*), alongside its efficacy in combating Tridoshaja disorders.<sup>[5]</sup> establishes it as the premier among sharp and ancillary instruments. Both oral and topical applications of *Kshara* find mention in subsequent texts like the Puranas, emphasizing its wide-ranging therapeutic utility. The dual applicability of *Kshara*, externally and internally, enhances its effectiveness compared to alternative treatments. Moreover, *Kshara* can be categorized based on concentration levels (*Mrudu*, *MadhyAma*, and *Teekshna*) and modes of administration (*Paneeya* and *Pratisaraneeya*), offering a comprehensive approach to its utilization in medical interventions.<sup>[6]</sup>

Potent, fiery, and possessing a cutting edge, *Kshara* exhibits remarkable efficacy in eliminating parasites, *Ama* (undigested toxins), excess *Kapha*, toxins, and adipose tissue. Its therapeutic potential extends across a spectrum of conditions, addressing ailments like stubborn wounds (*Dushta Vrana*), *Fistula-in-ano* (*Bhagandara*), hemorrhoids (*Arsha*), skin conditions (*Charmakeela*), kidney stones (*Ashmari*), ascites (*Gulma Udara*), leprosy (*Kushtha*), among others.<sup>[7]</sup> However, excessive consumption of *Kshara* may lead to *Pumsatvaupagatha*, a condition characterized by impotence. *Charaka* highlights its digestive benefits, though warns against its excessive usage, which could impair vision. Additionally, *Vagbhata* cautions that due to its sharp nature (*Katurasa*), *Kshara* may adversely affect the heart (*Hridaya*), hair (Kesha), eyes (*Chakshu*), vitality (*Ojus*), and reproductive fluids (*Shukra*).

*Kshara*, derived from minerals or herbs, is an alkaline substance renowned for its corrosive and germicidal properties. Its components, including *Ropan* (healing), *Pachan* (digestive), *Bhedan* (penetrative), *Lekhan* (scraping), *Sodhana* (purifying), and *Chedan* (cutting), collectively work to detoxify the body's *Dosha* (imbalances), *Dhatu* (tissues), and *Mala* (wastes). These attributes play a pivotal role in effectively managing conditions related to poor digestion, especially *Aam*. *Kshara* demonstrates remarkable efficacy in alleviating a diverse range of ailments such as skin disorders, parasitic infections, *Fistula-in-ano* (*Bhagandra*), chronic wounds (*Nadivrana*), tumors (*Arbuda*), and hemorrhoids (*Arsha*), among others.

*Kshara* is categorized into two distinct types depending on its mode of administration:

- *Pratisaraneeya Kshara*: Intended for external application.
- *Paneeya Kshara*: Meant for internal consumption.

#### Indication of Pratisaraneeya Kshara<sup>[8]</sup>

Acharya Dalhan suggests a specific procedure where the ash should dissolve in six parts of water, resulting in a third of the solution, which is then filtered through a clean cloth. This filtered solution, known as *Paneeya Kshara*, is employed for internal applications. It is utilized internally for addressing conditions like *MandAgni* (weak digestion) and *Krurkostha* (severe gastric problems).

#### Indication of Paneeya Kshara<sup>[9]</sup>

The ancient Acharyas advocate the use of *Pratisaraneeya Kshara* for a wide array of diseases, including *Kushtha* (skin disorders), *Kitibha* (psoriasis), *Kilasa* (vitiligo), *Mandala Kushtha*, *Bhagandara* (fistula-in-ano), *Dushtavrana* (infected wounds), *Nadivrana* (sinus), *Bahyavidradhi*, *Arbuda* (tumors), *Charmakeela* (warts), *Tilakalaka* (moles), *Nyachha*, *Vyanga* (skin pigmentation), *Mashaka* (nevus), *Saptamukhroga* (oral diseases such as *Upajivha*, *Adhijivha*, *Upakusha*), *Dantavaidarbha*, and conditions arising from imbalances of *Vata*, *Pitta*, and *Kapha Doshas*.

#### Contra-indication of Kshara<sup>[10]</sup>

Before administering *Kshara*, it is essential to evaluate the patient's overall health condition. The contraindications for *Kshara* usage can be categorized as follows.

**Table 1: Contra-indication of Kshara.**

Disease	<i>Shiuroga</i> , <i>Panduroga</i> , <i>Sarvaanga Shophya</i> , <i>Raktaja</i> , <i>Praviddha</i> , <i>Jwara</i> , <i>Trishna</i> , <i>Udararoga</i> , <i>Murchha</i> , <i>Hidroga</i> , <i>Prameha</i> , and <i>RaktaPitta</i>
Physical and mental state of the patient	Children, phobic persons, aged, persons, menstruating, pregnant, <i>Durbala</i> , <i>Ruksha</i> , <i>Shukra-ksheena</i> , and others.
Sites	Arteries, joints, vital parts, ligaments, cartilages, veins, throat, umbilicus, penis, testis, inadequate musculature, nails, and every portion of the eye other than the lid.
Seasons	Summer, autumn and cloudy weather.

#### *Kshara Guna*<sup>[11]</sup>

**Table 2: Kshara Guna.**

S. N.	Guna	Sushruta	Charaka	Vagbhata
1	<i>Ushna</i>	-	+	-
2	<i>Rooksha</i>	-	+	-
3	<i>Teekshna</i>	-	+	-
4	<i>Laghu</i>	-	+	-
5	<i>Kledi</i>	-	+	-
6	<i>Deepana</i>	-	+	-
7	<i>Vidarana</i>	-	+	-
8	<i>Chhedana</i>	-	+	-
9	<i>Pakta</i>	-	+	-
10	<i>Dahakaraka</i>	-	+	-
11	<i>Agnisadrishya</i>	-	+	-
12	<i>Naatimridu</i>	+	-	+

13	<i>Naatiteekshna</i>	+	-	+
14	<i>Shukla</i>	+	-	-
15	<i>Picchila</i>	+	-	+
16	<i>Avishyandi</i>	+	-	+
17	<i>Sheeghrakari</i>	+	-	-
18	<i>Sukhanirvavya</i>	-	-	+
19	<i>Slakshna</i>	+	-	+
20	<i>shikhari</i>	-	-	+

### Kshara Properties

**Table 3: Kshara Properties.**

<i>Rasa</i>	<i>katu</i>
<i>Guna</i>	<i>Teekshna, Saumaya, Agneya</i>
<i>Virya</i>	<i>Ushna</i>
<i>Vrana</i>	<i>Shukla</i>
<i>Doshghanta</i>	<i>Tridoshaghna</i>
<i>Karma</i>	<i>Shodhana, Ropana, Shoshana, Vilayana, Pachana, Darana, and Dahana</i>

### Pratisaraneeya Kshara<sup>[12]</sup>

When it comes to preparing *Pratisaraneeya Kshara*, Sushruta's methodology stands out as exceptionally effective. Commencing during the auspicious period of early *Sharad Ritu* (autumn season), the practitioner responsible for *Kshara* preparation initiates the process with a purifying bath. Fasting on this propitious day, the healer ventures into the hills in search of mature, pest-free plants. These selected plants, known as *panchangas*, are meticulously gathered, dried, and subsequently cut into small fragments. They are then ignited using limestone, with *Tilanala* aiding in containing any dispersing plant particles during the burning process. Once the ash cools down, it is meticulously separated from the remnants of *Bhasma Sharkara* and limestone residue.

The ash is thoroughly mixed with six times its volume of water or cow urine, then meticulously filtered through a piece of cloth twenty-one times into a large vessel. This filtrate, termed *Ksharao-Daka*, is then subjected to continuous stirring over *MandAgni* until it reduces to one-third of its volume, discarding the excess portion. This yields *Mridu Kshara*.

To prepare *Prativapa*, eight *Palas* are combined with either *Shankhanabhi* or *Shukti* and heated until the desired consistency is achieved, neither too liquid nor overly dry. This resulting solution is referred to as *MadhyAma Kshara*. Reheating the *MadhyAma Kshara*, medicinal plants such as *Danti*, *Chitraka*, and *Ativisha* are added, resulting in the formation of a dense mixture known as *Teekshna Kshara*.

### Paneeya Kshara<sup>[13]</sup>

Thoroughly combine the collected ash with six times its volume of water, then meticulously filter the mixture through a piece of cloth twenty-one times into a large vessel. Once the excess portion is discarded, retain the filtrate (*Ksharoadaka*) and place it over *MandAgni*. Vigorously stir the mixture until it reduces by one-third.

### Kshara Matra

**Paneeya Kshara:** ½ to 1 *Pala* (Chakrapani)

**Pratisaraneeya Kshara:** *Nakhotashedha* (Sushruta)

*Kshara* stands as a vital component among the eighteen constituents of medicinal plants, as elucidated by Acharya *Charaka*. Notably, *Charaka* advocated the internal application of *Kshara* for various ailments, including *Grahani* (gastrointestinal disorders), *Udara* (abdominal diseases), and *Swasa roga* (respiratory conditions), among others.

**Pachana (Digestives):** *Pachana* denotes a therapeutic procedure primarily aimed at *AmaPachana* (digestion of undigested toxins) without enhancing *Agni Deepana* (stimulation of digestive fire).<sup>[14]</sup> Ingredients such as *Nagakesara*.<sup>[15]</sup> are instrumental in facilitating this process.

### Mechanism of Action of Pachana Dravyas

1. Activation of the Vagus nerve, triggering the secretion of gastric juices.
2. Stimulation of the duodenum, prompting the release of digestive enzymes and hormones.
3. Induction of bile secretion by the liver.
4. Promotion of pancreatic juice secretion by the pancreas.

Ailments such as *Agnimandhya* (weak digestion), *Ajirna* (indigestion), *Grahani* (gastrointestinal disorders), and *AmaVata* (rheumatoid arthritis) derive significant benefits from these actions. They enhance the digestive capacity, known as *Jarna Sakti*. Medications possessing both qualities, *Deepana* (appetizer) and *Pachana* (digestive), are particularly noteworthy. For instance, the inclusion of *Chitraka* underscores the prevalence of *Agni Mahabhoota* (Fire element) and *Deepana-Pachana* medications.

In the practice of *Langhana Chikitsa*, where the aim is to make the body lighter, *Deepana* and *Pachana* are primarily associated with *Guna Laghu* (light), alongside *Ushna* (hot), *Tikshana* (sharp), *Sukshma* (subtle), *Ruksha*

(dry), *Vishada* (clear), *Khara* (rough), *Sara* (mobile), and *Kathina* (hard) *gunas*.<sup>[16]</sup>

The characteristics of *Ushna* (hot), *Tikshana* (sharp), *Sukshma* (subtle), *Vishada* (clear), etc., are attributed to the *Agni Mahabhoota* (Fire element) of *Deepana* drugs, while *Laghu* (light), *Sheeta* (cold), and *Ruksha* (rough) are associated with *Vayu Mahabhoota* (Air element). These attributes aid in the conversion of *Sama Dosh* (balanced *Doshas*) into *NirAma* (*Doshas* without *Ama*), as per the *Dosha's* Report on *Pachana* Drugs (*Chikitsa Kalika*).

#### Examples include

1. *Rasna Kvatha*, *Nagara Kvatha* for *Vata Vikara*.
2. *Patola Kvatha*, *Vasa Kvatha* for *Pitta Vikara*.
3. *Triphala Kvatha*, *Nimba Kvatha* for *Kapha Vikara*.

#### Role of *Pachana* in Samsodhana karma (Panchakarma)

The significance of *Pachana* in Samsodhana Karma (Panchakarma) is pivotal, representing a vital element in the process of biopurification. Panchakarma, comprising five distinct therapeutic modalities, stands as the epitome of *SamShodhana's* healing technology. Classical texts delineate three primary karmas within Panchakarma therapy.<sup>[17]</sup> *Purva Karma*, *Pradhana Karma*, and *Paschata Karma*, with *Purva Karma* serving as the foundational aspect across all Panchakarma treatments.

#### Duration of *Pachana Chikitsa*

When discussing the duration of *Pachana Chikitsa*, it becomes apparent that classical texts emphasize the attainment of *Samyak Langhana Lakshana* before delving into the appropriate duration for *Pachana*. These signs include the manifestation of sweat and appetite, the alleviation of lethargy and fatigue, a sensation of lightness in the body, clarity in the chest, throat, and mouth, along with the emergence of hunger and thirst.<sup>[18]</sup>

#### The necessity for *Purva Karma* arises from several factors

1. It promotes the *biofire Agni*, crucial for digestion and metabolism.
2. It aids in the elimination of *Ama*, the localized morbid *dosha*.
3. By mobilizing *Doshas* from *Shakha to Kosht*, it prepares them for expulsion.
4. It softens the body's tissues and cells, facilitating their elimination.

*Pachana* forms an integral component of *Purva Karma* in all Panchakarma therapies. According to Ayurvedic principles, imbalanced *Agni* and the resultant *Ama* are the root causes of diseases. *Pachana* medications play a crucial role in resolving *Srotorodha* (blockage of channels) caused by *Ama* digestion, thus priming the body for subsequent purification procedures.

Acharya Hemadri delineates the role of *Pachana* drugs in digesting *Ama* and separating *Dosha* from *Dhatu*, aiding in the transformation from a balanced (*Sama*) to an imbalanced (*NirAma*) state. These medications also play a crucial role in *Shodhana* (purification) therapy, as they permeate deeply into the body, effectively bonding with *Dosha* entrenched within the tissues.<sup>[19]</sup>

It is imperative to initiate the purification process with *Pachana*, followed by *Shodhana*, to avoid detrimental effects on the body akin to extracting juice from unripe fruit. This sequential approach ensures the timely expulsion of morbid *Dosha* via the most appropriate route, based on individual strength and condition.

#### Importance and Mode of action of *Pachana*

In the realm of Ayurveda, the concepts of *Ama* (metabolic waste material) and *Agni* (digestive fire) hold profound significance, influencing the etiology and treatment approaches for a wide array of illnesses. *Ama*, often associated with *Vata*, swiftly traverses through the body's various *Kapha* seats, saturating them along with the arteries (*DhAmani*) with a viscous, waxy substance. This byproduct of incomplete digestion, colorfully linked to *Vata Pitta* and *Kapha*, obstructs tissue pores and passageways, manifesting as a thick, waxy substance.<sup>[20]</sup>

The characteristics of *Ama*, including indigestion (*Apakti*), debility (*Bala Bhransha*), constipation (*Mala Sanga*), channel blockage (*Strotorodha*), and stiffness (*Anila-Mudhta*),<sup>[21]</sup> indicate its state of incomplete metabolism, akin to partially digested or metabolized food. This incomplete state bears semblance to free radicals, molecules with unpaired electrons, necessitating the intervention of antioxidants to neutralize them. The resultant damage may lead to putrefaction and unpleasant odors, reminiscent of one of *Ama's* qualities described as "*Durgandham*."<sup>[22]</sup>

#### CONCLUSION

In conclusion, the prevalence of sedentary lifestyles in the modern era increases the likelihood of *Agni* disturbances, primarily at the level of *JatharAgni*. This disturbance cascades down to affect *Dhatvagni* and *Bhootagni*. *Pachana Dravyas* play a pivotal role in transitioning from a state of imbalance (*Sama*) to a state of equilibrium (*Nirama*). Consequently, *Purva Karma* in both *Samsodhana* and *Shamana* karma proves to be highly effective in promoting *Pachana* and restoring metabolic balance.

#### REFERENCES

1. Acharya Sushruta, Sushruta Samhita, Dalhana. Nibandhasangraha commentary, Edited by Yadavji Trikamji Acharya and Naarayana Ram Acharya, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint, Sutrasthana, 2013; 11(4): 45.
2. Acharya Sushruta, Sushruta Samhita, Dalhana. Nibandhasangraha commentary, Edited by Yadavji Trikamji Acharya and Naarayana Ram Acharya,



- Chaukhambha Sanskrit Sansthan, Varanasi, Reprint, Sutrasthana, 2013; 11(3): 45.
3. Acharya Sushruta, Sushruta Samhita, Dalhana. Nibandhasangraha commentary, Edited by Yadavji Trikamji Acharya and Naarayana Ram Acharya, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint, Sutrasthana, 2013; 8(15): 41.
  4. Acharya Sushruta, Sushruta Samhita Dalhana. Nibandhasangraha commentary, Edited by Yadavji Trikamji Acharya and Naarayana Ram Acharya, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint, Chikitsasthana, 2013; 1(8): 397.
  5. Acharya Sushruta, Sushruta Samhita, Dalhana. Nibandhasangraha commentary, Edited by Yadavji Trikamji Acharya and Naarayana Ram Acharya, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint, Sutrasthana, 2013; 11(3): 45.
  6. Acharya Sushruta, Sushruta Samhita, Dalhana. Nibandhasangraha commentary, Edited by Yadavji Trikamji Acharya and Naarayana Ram Acharya, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint, Sutrasthana, 2013; 11(6): 46.
  7. Acharya Sushruta, Sushruta Samhita, Dalhana. Nibandhasangraha commentary, Edited by Yadavji Trikamji Acharya and Naarayana Ram Acharya, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint, Sutrasthana, 2013; 11(7,8): 46.
  8. Acharya Sushruta, Sushruta Samhita, Dalhana. Nibandhasangraha commentary, Edited by Yadavji Trikamji Acharya and Naarayana Ram Acharya, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint, Sutrasthana, 2013; 11(7): 46.
  9. Acharya Sushruta, Sushruta Samhita, Dalhana. Nibandhasangraha commentary, Edited by Yadavji Trikamji Acharya and Naarayana Ram Acharya, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint, Sutrasthana, 2013; 11(8): 46.
  10. Acharya Sushruta, Sushruta Samhita, Dalhana. Nibandhasangraha commentary, Edited by Yadavji Trikamji Acharya and Naarayana Ram Acharya, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint, Sutrasthana, 2013; 11(9,30-31): 46-50.
  11. Acharya Sushruta, Sushruta Samhita, Dalhana. Nibandhasangraha commentary, Edited by Yadavji Trikamji Acharya and Naarayana Ram Acharya, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint, Sutrasthana, 2013; 11(18): 48.
  12. Acharya Sushruta, Sushruta Samhita, Dalhana. Nibandhasangraha commentary, Edited by Yadavji Trikamji Acharya and Naarayana Ram Acharya, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint, Sutrasthana, 2013; 11(11-15): 46-48.
  13. Acharya Sushruta, Sushruta Samhita, Dalhana. Nibandhasangraha commentary, Edited by Yadavji Trikamji Acharya and Naarayana Ram Acharya, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint, Sutrasthana, 2013; 11(10): 46.
  14. Sharngadhar, Sharngdhar Samhita with Jiwanprada Hindi Commentary by Dr Smt. Shaileja Srivastava, Edition: Reprint, Poorva khand, Chapter 4 verse 2, Varanasi, Chaukhambha Orientalia, 2011; 30.
  15. Charaka Samhita of Agnivesha elaborated by Charaka and Dridhabala, Charaka Samhita with Ayurveda Dipika Commentary by Chakrapanidatta, edited by Yadav Ji Trikamji Acharya, reprinted, New Delhi, Chaukhamba Publications, Sutra sthana, 22nd Adhyaya, 2014; 10<sup>th</sup>: 120.
  16. Sushrut Samhita of Maharshi Sushruta with Nibandhsamgraha Commentary by Shri Dalhan edited by Yadav Ji Trikamji Acharya, reprinted, New Delhi, Chaukhamba Publications, Sutra Sthan, 5th Adhyaya, 3rd verse, 2017; 18.
  17. Ashtang Hridya of Acharya Vagbhata with the commentaries of Sarvangasundara of Arundatta and Ayurvedarasayana of Hemadri, edited by Pt Hari Sadashiva Shastri, reprinted 2018, New Delhi, Chaukhamba Publications, Sutra Sthan, 13th Adhyaya, 28-29th verse, 217.
  18. Charaka Samhita of Agnivesha elaborated by Charaka and Dridhabala, Charaka Samhita with Ayurveda Dipika Commentary by Chakrapanidatta, edited by Yadav Ji Trikamji Acharya, reprinted, New Delhi, Chaukhamba Publications, Sutra sthana, 22nd Adhyaya, 2014; 34<sup>th</sup>: 122.
  19. Priyanka Nandkishor Kalbende et al; review article on Consideration of ama as a causative entity of some diseases a review as per Ayurveda, jipbs, 2016; 3(2): 54- 58.
  20. Ashtang Hridya of Acharya Vagbhata with the commentaries of Sarvangasundara of Arundatta and Ayurvedarasayana of Hemadri, edited by Pt Hari Sadashiva Shastri, reprinted, New Delhi, Chaukhamba Publications, Sutra Sthan, 13th Adhyaya, 2018; 23-24<sup>th</sup>: 216.
  21. Ashtang Hridya of Acharya Vagbhata with the commentaries of Sarvangasundara of Arundatta and Ayurvedarasayana of Hemadri, edited by Pt Hari Sadashiva Shastri, reprinted, New Delhi, Chaukhamba Publications, Sutra Sthan, 13th Adhyaya, 2018; 25<sup>th</sup>: 217.
  22. Madhavakara, Madhav Nidan, The Madhukosha Sanskrit Commentary by Sri Vijayraksita and Srikanthadatta and The Vidyotini Hindi Commentary by Sri Sudarsana Sastri, Edited by Prof. Yadunandan Upadhyaya, (M.N 25/1), Chaukhambha Prakashana, Revised Edition Reprint, Varanasi, 3rd Adhyaya, 2009; 12<sup>th</sup>: 25.