

Journal of Ayurveda and Integrated Medical Sciences

www.jaims.in



An International Journal for Researches in Ayurveda and Allied Sciences



note

Journal of

Ayurveda and Integrated Medical Sciences

REVIEW ARTICLE

July 2022

A Literary Review and Therapeutic Action Pashanbheda (Bergenia ligulata Wall) described Shamhita in Ashmari Roga

Chitranjan Das¹, Bharati Kumari², Prof. Mahendra Prasad Singh³, Shreebhagwan Singh⁴

- ^{1,2}Post Graduate Scholar, Department of Dravyaguna, Government Ayurvedic College, Patna, Bihar, India.
- ³Professor & HOD, Department of Dravyaguna, Government Ayurvedic College, Patna, Bihar, India.
- ⁴Associate Professor, Department of Dravyaguna, Government Ayurvedic College, Patna, Bihar, India.

ABSTRACT

The health is supreme foundation for the achievement of happy life. Ayurveda is the most ancient medical science of the world. It deals with preventive and curative aspect of disease and primitive aspect of health. According to Ayurveda simple freedom from diseases is not health. To become healthy, person should be happy in both mentally and spiritually. Pashanbhed (Bergenia liqulata Wall), also known as a stone breaker, is a popular Indian herb used extensively in the treatment of kidney stones. Ayurvedic classics always emphasized the need of advancement in the science to keep pace with the need of time. Now the right time comes to get fruitful researches in such disease where Ayurveda can offer a better hand than any other medical field. As the advancement of facilities human being has created several disharmonies in his biological system. Ashmari is one of the most common and distressing disease among the group of urinary disorder. In the ancient period the diagnosis of Ashmari was done, based only on the Lakshanas.

Key words: Health, Ashmari, Urinary Disorder, Kidney Stones, Lakshanas, Pashanbhed, Ayurvedic Classics.

INTRODUCTION

Urolithiasis is the stone formed in urinary tract (kidney, ureter, bladder and urethra). Synonym for Urolithiasis is urine stone/calculi. In Ayurveda it is known as Ashmari which means calculi or stone and its small powder like pieces are known as Sharkara or Sikata i.e., gravels. In Sushruta Samhita, Sushrutacharya explains the two process of stone formation. One is by the

Address for correspondence:

Dr. Chitranian Das

Post Graduate Scholar, Department of Dravyaguna, Government Ayurvedic College, Patna, Bihar, India.

E-mail: chitranjandas124@gmail.com

Submission Date: 09/05/2022 Accepted Date: 15/06/2022

Access this article online **Quick Response Code**

Website: www.jaims.in

Published by Maharshi Charaka Ayurveda Organization, Vijayapur, Karnataka (Regd) under the license CC-by-NC-SA

stagnation and super saturation of the urine and other by crystallization of the crystalloids in the urine. Charakacharya in Charka Samhita more specifically explains the process of gall bladder stone formation. Various herbal formulations are mentioned in classical texts and are found effective till today. Specific group of drugs are mentioned on basis of type of stone on its Doshas combinations. [1] In Ayurveda our Acharya's Charaka and Susruta have mentioned different diseases and its treatment modalities and different formulations from Vedic Kala. In Atharvaveda there is a reference regarding Mutravarodha due to Ashmari. Our Acharyas have mentioned the diseases like Prameha, Mutrakricchra and Mutraghata. Our Acharya Susruta has described the Ashmari a separate disease and he has included in "Ashta Mahagada" [2] and considered as Yama because it gives intolerable pain.[3] According to Ayurveda, consuming Pashanbhed powder increases urine production and helps in easy removal of stones due to its Mutral (diuretic)

property. [4] Basti is one of the three vital organs in the body, the other two being Hridaya and Nabhi. It is the most important organ maintaining the homoeostatis by regulating the excretion of the metabolites and waste products, i.e., Dosha, Dhatu and Mala. Vegavarodha, i.e., suppression of natural urges is an important cause of various diseases. Ayurveda states that suppression of micturition is one of the most important causes of the disease of urinary tract. With progressive urbanization and inadequate toilet facilities, this cause has assumed greater importance. [5]

PASANABHEDA

Taxonomical classification^[6]

Classification	Category
Kingdom	Plantae
Subkingdom	Tracheobionta
Supervision	Spermatophyta
Class	Magnoliopsida
Subclass	Rosidae
Order	Rosales
Family	Saxifragaceae- Saxifrage family
Genus	Bergenia moench- elephant ear
Species	Bergenia ligulata (Wall.)

Vernacular Names^[7]

Classical name: Pasanabheda

Sanskrit Names: Asmaghna, Prastara, Nagabhedaka, Asmabheda, Nagabhid, Asmrïbhedaka, Drṣadbheda, Nagajit.

Regional names: *Pakhanbheda, Silpharha, Patharchur* (Hindi).^[7]

	Language	Vernacular name	
	Gujarati	Pakhanbheda, Paashanbheda	

Hindi	Dakachru, Pakhanabhed, Pakhanabheda, Patharcua, Silparo, Silpbheda, Dakachru, Pakhanabhed, Pakhanabheda, Patharcua, Silparo, Silpbheda, Dakachru, Pakhanabhed, Pakhanabheda, Patharcua, Silparo, Silpbheda			
Kannada	Alepgaya, Hittaga, Hittulaka, Pahanbhedi, Pasanberu, Alepgaya, Hittaga, Hittulaka, Pahanbhedi, Pasanberu			
Kashmiri	Pashanbhed			
Malayalam	Kallurvanchi, Kallurvanni, Kallorvanchi			
Marathi	Paashanbheda			
Punjabi	Batpia, Dharposh, Kachalu, Paashanbhed			
Sanskrit	Ashmabheda, Nagbhita, Pashaanbheda, Silabheda			
Tamil	Sirupilai			
Telugu	Kondapindi, Telanurupindi			
Urdu	Kachalu, Pakhanabheda			
English	Rockfoil			

Habitat (*Utpattishtana*)

Temperate Himalayas 4000ft. and above.

Geographical distribution

The Bergenia ligulata is perennial herb upto 50 cm tall, succulent. It is distributed in the temperate Himalaya (from Kashmir to Nepal) from 2000-2700 m and very common in Pakistan, Central and East Asia. [8],[9]



Habit (Swarupa)

A perennial herb. Rootstock very stout. Stems short, thick, fleshy. Leaves ovate or round, 5-15 cm. long. Flowers white, pink or purple, 3.2 cm diameter, forming a cymose panicle. Flowering stem flexible. Styles long.^[10] In spreading cymose panicle terminating in flaxible scape. Petal orbicular with a claw.^[11]

Flowering and fruiting time: Spring season to summer or rainy season.

Upayukta Anga (Part Used): Moola.

Guna^[12]

Rasa	Kasaya, Tikta.	
Guna	Laghu, Snigdha, Tikshna	
Virya	sita	
Vipaka	katu	
Prabhav	Ashmribhedan	

Macroscopic Features

The rhizomes are compact solid, barrel shaped, somewhat cylindrical, measuring 1-3 cm long and 1-2 cm in diameter. The outer surface is brown colored with small roots, ridges, furrows wrinkles and covered with root scars. It possesses aromatic odor and astringent taste. [13],[14]

Microscopic Features

Transverse section of rhizome shows cork divided into two zones; outer and inner. Outer zone is with few layers of slightly compressed and brown colored cells whereas inner zone is multilayered consisting of thin walled, tangentially elongated and colorless cells. Cork is followed by single layered cambium and two to three layers of secondary cortex.

Cortex consists of a narrow zone of parenchymatous cells containing a number of simple starch grains whereas most of cortical cells contain large rosette crystals of calcium oxalate (CaC2O4) and starch grains. Endodermis and pericycle are absent whereas vascular bundles arranged on a ring. Cambium is present as

continuous ring composed of two to three layers of thin walled, tangentially elongated cells.

Xylem consists of fibres, tracheids, vessels and parenchyma. Centre is occupied by large pith composed of circular to oval parenchymatous cells containing starch grains with CaC2O4 crystals similar to those found in cortical region. Vessels with simple pits have perforation plates on one end or at both ends and tracheids have helical thickenings. [15-18]

Chemical constituents of *Pashanbhed* (*Bergenia ligulata*)

It consists of major phenolic compound 'bergenin' (nearly 0.9%) and other phenolic compounds in minor amount. Phenolic compounds includes (+)-afzelechin, leucocyanidin, gallic acid, tannic acid, methyl gallate, (+)-catechin, (+)-catechin -7-O-B-D-glucopyranoside, 11-O-galloyl bergenin a lactone-Paashaanolactone. It also contains sterols *viz.*, sitoindoside I, B- sitosterol and B-sitosterol-D-glucoside, glucose (5.6 %), tannin (14.2-16.3 %), mucilage and wax.

Rhizomes of *B. ligulata* showed a presence of different chemical entities like;

Coumarins: bergenin, 11-0-galloyl bergenin, 11-O-P-hydroxy-benzoyl bergenin; 11-O-brotocatechuoyl bergenin, 4-0-galloyl bergenin;

Flavonoids: (+) afzelechin, avicularin, catechin, eriodictyol-7-O-β-D-glucopyranoside, reynoutrin;

Benzenoids: arbutin, 6-O-P-hydroxy-benzoyl arbutin, 6-O-protocatechuoyl arbutin; 4-hydroxy benzoic acid;

Lactone: Idehcxan-5-olide, 3-(6'-O-P-hydroxy)[22],[23]

Therapeutic uses of *Pashanbhed*^[24]

Pashanbhed is used in the management of kidney and bladder stones, urinary problems, and other diseases due to its medicinal properties like:

- Anti-inflammatory activity
- Antilithic activity (preventing the formation of stones)
- Antiviral activity

- Anti-bradykinin activity
- Antibacterial activity
- Diuretic activity
- Liver protective activity
- Antipyretic activity
- Laxative
- Analgesic
- Aphrodisiac
- Abortifacient^[25]

Benefits of Pashanbhed

Benefits of *Pashanbhed* for Preventing Stone Formation:

- Antiurolithic is the property of preventing or dissolving stones in the ureters, bladders, or kidneys.
- Pashanbhed inhibits the growth of calcium oxalate monohydrate crystals, which is responsible for the formation of kidney or urinary stones.
- Hot water extract of the Pashanbhed plant is taken orally for treating urinary or renal stones.
 Pashanbhed powder is also recommended to manage painful urination. [26]

Benefits of Pashanbhed as an Antidiabetic Medicine:

- The alcoholic extract of roots of Pashanbhed contains hypoglycemic (blood sugar lowering) properties.
- It might reduce elevated blood sugar levels in diabetic patients.
- The antidiabetic effect might be due to the stimulation of insulin release or the stimulation of cells of pancreatic islets.
- Due to its anti-diabetic properties, Pashanbhed can be used as a component of medicines or nutraceutical foods for managing diabetes and associated symptoms.

Benefits of Pashanbhed for the Liver:

 The alcoholic extract of Pashanbhed showed a reduction in the levels of serum glutamic pyruvic transaminase (SGPT), serum glutamic oxaloacetic transaminase (SGOT), alkaline phosphatase (ALP), and total bilirubin.

- This confirmed the hepatoprotective (liver protecting) effect of Pashanbhed.
- Pashanbhed powder is also helpful for managing liver and spleen diseases, particularly enlarged spleen.^[28]

Benefits of Pashanbhed as a Diuretic:

- Diuresis refers to an increased passage of urine.
- Alcoholic extracts of roots of Bergenia ligulata proved to increase urinary electrolyte concentration of sodium, potassium, and chloride, which shows that it has diuretic properties.
- The diuretic property of the roots of Bergenia ligulata might be due to the presence of compounds like saponins and flavonoids.^[29]

Benefits of *Pashanbhed* for the Reproductive System:

- Pashanbhed powder helps nourish and correct the functioning of the reproductive system.
- Pashanbhed is also used for treating gynaecological problems.^[30]

Benefits of Pashanbhed for the Skin:

- In India, dried roots of Pashanbhed have been used topically for treating boils, wounds, cuts, and burns.
- The hot water extract of Pashanbhed has been used externally for the treatment of boils.^[31]

Ashmari

Charaka Samhita

In this ancient treatise of medical science, *Charaka* explained the etiology, pathogenesis, symptomatology, and treatment modalities in detail in *Chikitsa Sthana* 26th chapter. While in *Vimana Sthana* 5th chapter he described the *Moolasthana* of *Mootravaha Srotas* and its *Dusti Karana's* and *Lakshana*.^[31]

In Ayurveda our Acharya's Charaka and Susruta have mentioned different diseases and its treatment

modalities and different formulations from *Vedic Kala*. In *Atharvaveda* there is a reference regarding *Mutravarodha* due to *Ashmari*.

Our *Acharya Susruta* has described the *Ashmari* a separate disease and he has included in "*Ashta Mahagada*"^[32] and considered as *Yama* because it gives intolerable pain.^[33]

Ashmari is one among the eight Mahagadas the reason is *Tridoshaja* in nature. On the basis of prognosis the disease is *Daruna Vyadhi*. [34] When the disease is fatal it needs surgical intervention.

In contemporary medical science it is correlated with Urolithiasis. The process of forming stones in the kidney, bladder and Urethra. Urinary stones are a common cause of blood in the urine and pain in the abdomen, flank or groin. [35] Urinary calculi occur around 1 in 20 people at some point of time in their life.

The development of stones is related to decreased urine volume or increased excretion of stone forming components such as Calcium, Oxalate, Urate, Cysteine, Xanthine and phosphate. The stones form in the urine collecting area (pelvis) of the kidney and may range in size from tiny to staghorn stones the size of the renal pelvis itself. Our Acharyas have mentioned various line of treatment for Ashmari. In Ayurvedic classics there are plenty of medicinal formulations and preparation are mentioned in treatment of Mutrashmari. Drugs advised for Mutrashmri have Ashmari Bhedana property and are Mutrala, Anti-inflammatory, diuretic and Anti-Urolithic properties. [37]

Ashmari is considered as one of the Mahagada by Sushruta, owing to its potentiality to disturb the urinary system as well as life of a person.

Etymology

The word *Ashmari* is derived from "*Ashma*" and '*Ari*'. '*Ashma*' means stone or a gravel and '*Ari*' means enemy which denotes 'A stone like substance exerting great suffering to person like an enemy'. According to *Shabdakalpadruma*^[38]

Ashma = Stone,

Rati = to present

Synonyms: *Ashmari, Ashmarih, Pathari,* Stone gravel, calculus, calculi.

Definition: Formation of *Ashma* (stone) like substances within the urinary system is called *Mutrashmari*.

According to various texts, disease *Ashmari* can be defined as.

- Ashmari Mutrakricchhasyat^[39] (Amarakosha)
- Ashmari Mutrakricchha Bheda (Aayurvedic Shabdakosha)
- Mutra Vegdharana leads to Ashmari^[40]

Nidana

According to Sushruta - There are two main Nidanas of Ashmari, Ashamshodhana and Apathya Sevana. [41]

Samprapti

Acharya Sushruta, Charaka and Vagbhatta have similarly explained the process of Ashmari formation by citing different examples e.g., Acharya Charaka while dealing with Mootrashmari Samprapti tells that when Bastista Mootra Pitta, Kapha are dried up by Vata it results in Mootrashmari in the same way as Gorochana is formed in Pittashaya of cow.

Commenting on this *Chakrapani* says that all the *Ashmari* are *Tridoshaja* in origin, he gives a very beautiful simile for this. As the water present in the atmosphere is dried up by wind and heat, in the same way, *Kapha* present in the *Basti* is dried up by *Vata* and *Pitta*.

He also says that *Kapha* is the main *Dosha* responsible for the formation of *Ashmari* through *Vata* dries up the *Mootra* to form *Ashmari*, but it is the *Kapha* which gives it the *Roopa*. [42]

Classification of Ashmari

Classifications of *Ashmari* mentioned in different classical texts are mentioned in the tabular format

SN	Types	SU.	Cha.	A.H.	A.S.
1.	Shleshmaja	+	-	+	+
2.	Pittaja	+	-	+	+

3.	Vataja	+	-	+	+
4.	Shukraja	+	-	+	+
5.	Mridu	-	+	-	-
6.	Kathina	-	+	-	-

Vataja Ashmari

Vataja Ashmari presents with the Lakshanas like severe pain due to obstruction to the flow of urine, due to excessive pain the patient clenches his teeth, squeezes the umbilical region, rubs the penis, touches the perineal region often and cries with agony, patient feels burning sensation and passes flatus, urine and stool with difficulty while straining for micturition. The Vataja Ashmari possess Shyava Varna and it will be Parusha, Khara, Vishama and hard studded with thorns like Kadamba Pushpa.

Pittaja Ashmari

The Lakshanas of Pittaja Ashmari explained in Sushruta Samhita are; obstruction to the flow of urine causes warmth, sucking, burning or throbbing sensation in Basti and this result in Ushnavata Lakshana. The Ushnavata Lakshanas are burning sensation in Basti, Medra & Guda. The Pittaja Ashmari possess Rakta Varna, Peeta Varna, Krishna Varna or Madhu Varna and resembles Bhallataka Asthi.

Kaphaja Ashmari

According to *Sushruta Samhita* the *Lakshanas* of *Kaphaja Ashmari* are; obstruction to the flow of urine causes cutting, incising or pricking pain, heaviness and cold sensation in *Basti*. The *Kaphaja Ashmari* possess *Shweta* or *Madhuka Pushpa Varna* and it will be *Mahath*, *Sniqdha* & resembles *Kukkutanda*.

Shukrashmari

The Lakshanas of Shukrashmari explained in Sushruta Samhita are burning micturition, painful micturition, pain in the Basti and swelling in the Vrushana. [43]

Purvarupa

Their premonitory symptoms are; fever, pain in the bladder, loss of taste, difficult in micturition, pain in the head of bladder, scrotum and penis; troublesome body *Acharya Sushrut* consider the *Ashmari* in *Ashtamahagada*. *Acharaya Sushrut* described about

Ashmari formation, causes of Ashmari, clinical features and treatment. Acharya Sushrut described both surgical and medicinal treatment for Ashmari. [44]

Samanya Lakshana

After manifestation, the person has pain in the area of the umbilicus, bladder, perineal, penis and other areas nearby during micturition, interruption of stream of urine, urine mixed with blood, urine scattering; urine resembling *Gomedaka* in colour, very turbid, and containing sand; there is pain during running, jumping, swimming, riding, exposure to sunlight, long walk etc.^[45]

Upadrava

Formation of *Mutra Sharkara* mentioned by *Acharya Sushruta* can be considered as one of the *Upadravas* of *Ashmari*. Otherwise, none of Ayurvedic classic has mentioned a specific *Upadravas* in relation to *Mutrashmari*. [46]

Chikitsa

Treatment of *Ashmari* can be one or more of the following four types:

- 1. Aushadha Chikitsa
- 2. Basti Chikitsa
- 3. Kshara Chikitsa
- 4. Shastra Chikitsa

Aushadha Chikitsa

Sushruta has advised to treat the disease in the Purvarupa stage itself. A newly formed Ashmari is curable with medicines while big or chronic calculi can be treated with surgical interventions only.^[47]

Basti Chikitsa

In this management, the decoction of latex trees administered through urethral douche, flushes out the calculus immediately along with the blood collected in the bladder. [48] Basti treatment in Mutrashmari is indicated by all the Acharyas. [49]

Kshara Chikitsa

Acharya Sushruta has advocated preparation of Kshara (Til, Apamarga, Kadali, Palasha, Yava Kalkaja

Kshara).^[50] This *Kshara* destroys calculi, abdominal swelling (retention) and urinary gravel.

Shastra Chikitsa

Shastra Karma is indicated when the calculi are not curable by treatment with Ghrita, Kshara, decoctions, milk preparations and Uttarabasti. Operation should be considered as last resort and must be performed after proper consent.^[51]

Pathyaapathya

Pathya

- Langhana, Vamana, Virechana, Basti, Avagaha Sweda are useful in Ashmari.
- The dietetic items are Yava, Kulattha, Purana Shaali, Mudga, ginger, Yava Kshara and all the Vata Shamaka Aahara.
- These items are mostly Vatanulomana and Mutrala. Further it is mentioned to take Gokshura, Yava Kshara, Varuna and Pashanabheda as medicine.^[52]

Apathya

Ativyayama (excessive practice), Adhyashana, Samashana, Sheeta, Snigdha, Guru, Madhura Aahara, Vegavarodha are treated as Apathya for Ashmari.^[53]

Diet

Sushka Aahara, Kapitthya, Jamuna, Bisamrinala, Kashaya Rasa Sevana etc. are also considered as Apathya for Ashmari.

Useful Recommendation in Ashmari:

Cereals : Old rice (Shaali), Yava

Pulses : Kulattha

- Vegetables: Cucumber, Kushmanda, Chirabhat, tender shoot of bamboo.
- Fruits: Chirabhat, Amlavetasa, Cucumber
- Fish and Meat: Meat of animals from any dry region, she tortoise.
- Food Preparation and Drinks: Nimbu, Jeevente, Saindhava, Kulattha soup, alcohol.

 Other Measures: Fasting, Emesis, induction of sweating, enema, hot water bath and purgation are advised.^[54]

DISCUSSION

Ashmari is Vyadhi of Mutravaha Srotas. The description of Ashmari Vyadhi described by Charaka, Sushrut and Vaqbhata.

In Asanshodhil (regular not doing Panchkarma) and Apthykari (Unwholesome Diet) person Aggravated Kapha Dosha mix up with Mutra (urine) enter in Basti (Kidney, ureter, Bladder) obstruct the urinary tract create Ashmari.

Sushrut has clearely mentioned who do not undergo Panchkarma Treatment regularly and who take Unwholesome Diet, follow faulty life style are prone for recurrent kidney stones. [55] Pashanbhed, also known as a stone breaker, is a popular Indian herb used extensively in the treatment of kidney stones. [56]

According to Ayurvedic manuscript, the word *Pashanbhed* mean stone breaker. In the holistic system of Ayurvedic medicine, *Pashanbhed* is commonly used in *Ashmari Vyadhi* and cure the *Ashmari*. It is also used in deferent type of disease like - ulcer, ear pain, teething issue in kids, constipation, cough, fever, etc.

Pashanbhed denoted as stone breaker since the Vedic time and its root and rhizomes have been mentioned in several Ayurvedic scripture. Kidney stone (Mutrashmari in Ayurveda) is a condition that develops due to an imbalance of Vata and Kapha Dosha and this causes Sanga (obstruction in the urinary bladder) leading to problems in micturition. The natural antiurolithic action of Pashanbhed is helpful in dissolving stones in the kidneys, and urinary system. This formulation treats urolithiasis owing to its Vata-Kapha pacifying and Mutral actions. It averts the formation of calculi and aids in eliminating stones via urine by increasing the urine output.^[57]

CONCLUSION

Pashanbhed powder is one of the best Ayurvedic herb of the urinary system. Pashanbhed itself means an Ayurveda herb which break s down the kidney stone.

So, it is one of the best Ayurvedic supplement for kidney stone. Correct use of *Pashanbhed* drug in prophylactic and therapeutic medications decreases the morbidity by its diuretic and lithotriptic action concerned with expulsion of stone. To decrease the risk of further stone formation, a patient is strictly advised to follow certain rules of conduct, diet and lifestyle regime (*Pathyapathya*) during the course of *Ayurvedic* treatment and thereafter to prevent reoccurrence. *Acharya Sushruta* says *Nidana Parivarjna* is as a major treatment tool for any disease.

REFERENCES

- https://www.hilarispublisher.com/proceedings/theconcept-of-urolithiasis-ashmari-in-ayurveda-26092.html
- Sushruta, Sushruta Samhita, Nidana Sthana, (Nibandhasangraha Commentary of Sri Dalhanacharya and Nyayachandrika Panjika of Sri Gayadas Acharya of Nidana Sthana), Acharya Vaidya Yadavji Trikamji, Varanasi, Chaukhambha Sanskrit Sansthana, Reprint 2005, 33/4, pp 824, p 144.
- 3. https://www.1mg.com/ayurveda/pashanbhed-224
- 4. https://en.wikipedia.org/wiki/bergenia_ligulata
- https://www.researchgate.net/publication/354191908

 a_comprehensive_review_on_bergenia_ligulata_paas
 hanbheda_and_its_role_in_the_treatment_of_kidney_stone_formation
- Dravyaguna vijnana, Dr. Gynendra pandey chowkhambha shanskrit series office, publisher: krishnadas academy,varanasi, edition: first 2001.
- 7. Ghazanfar S: Saxifragaceae, Flora of West Pakistan. In: Nasir, E., Ali, S. (Eds.), Monograph No. 108, Karachi: Shamim Printing Press; 1997:29.
- 8. Pandey G: Medicinal Plants of Himalaya. Vol-I, Delhi, India: Sri Sadguru Publications; 1995:167-168.
- Dravyaguna-vijanana,voll. 2nd, prof.D. shanth Kumar Lucas,chaukhambhavisvabharti,varanasi, first edition: 2008 year.
- Dravyaguna vijnana, Dr. Gynendra pandey chowkhambha shanskrit series office, publisher: krishnadas academy,varanasi, edition: first 2001.

- 11. Dravyaguna-vijanana,voll. 2nd, prof.D. shanth Kumar Lucas,chaukhambha visvabharti, varanasi, first edition: 2008 year.
- 12. Mehra PN, Raina MK: Pharmacognosy of Pashaanbheda. Indian Journal of Pharmacology 1971;33:126.
- Srivastava S, Rawat A: Botanical and phytochemical comparison of three Bergenia species. Journal of Scientific and Industrial Research 2008;67:65-72
- 14. Indian Herbal Pharmacopoeia. Revised edition. Mumbai: IDMA Publication; 2002:79-87.
- 15. Mehra PN, Raina MK: Pharmacognosy of Pashaanbheda. Indian Journal of Pharmacology 1971;33:126.
- Srivastava S, Rawat A: Botanical and phytochemical comparison of three Bergenia species. Journal of Scientific and Industrial Research 2008;67:65-72.
- Manjunatha SN: Pharmacognostic finger print profile of a controversial drug Paashanabheda. M. Pharm Dissertation, Rajiv Gandhi University of Health Sciences, Karnataka, India 2010
- 18. Jain MK, Gupta RJ: Isolation of bergenin from Saxifraga ligulata Wall. Indian Chemical Society 1962; 39:559-560.
- 19. Roy DH, Philip JH: Phenolic constituents of the cell walls of Dicotyledons. Biochemical Systematics and Ecology 1981;9:189-203.
- Umashankar D, Chawla A, Deepak M, Singh D, Handa S: High pressure liquid chromatographic determination of bergenin and (+)- afzelechin from different parts of Paashaanbheda (Bergenia ligulata). Phytochemical Analysis 1999;10:44.
- 21. Chandrareddy U, Chawla A, Mundkinajeddu D, Maurya R, Handa S: Paashanolactone from Bergenia ligulata. Phytochemistry 1998; 47:900-7.
- Fujii M, Miyaichi Y, Tomimori T: Studies on Nepalese crude drugs on the phenolic constituents of the rhizomes of Bergenia ciliata (Haw.) Sternb. Natural Medicine 1996;50:404-7.
- KM Ruby, Jaya Dwivedi, Rajani Chauhan; Pashanbheda A golden herb of Himalaya: A review. International journal of pharmacy review and research. 2012;2(2):97-105
- 24. S.S Gurav and N.S Gurav; A comprehensive review: Bergenia ligulata wall- A controversial clinical candidate. International journal of pharmaceutical sciences and research. 2014;5(5): 630-1642

- 25. S.S Gurav and N.S Gurav; A comprehensive review: Bergenia ligulata wall- A controversial clinical candidate. International journal of pharmaceutical sciences and research. 2014;5(5): 630-1642
- 26. S.S Gurav and N.S Gurav; A comprehensive review: Bergenia ligulata wall- A controversial clinical candidate. International journal of pharmaceutical sciences and research. 2014;5(5): 630-1642
- S.S Gurav and N.S Gurav; A comprehensive review: Bergenia ligulata wall- A controversial clinical candidate. International journal of pharmaceutical sciences and research. 2014;5(5): 630-1642
- 28. S.S Gurav and N.S Gurav; A comprehensive review: Bergenia ligulata wall- A controversial clinical candidate. International journal of pharmaceutical sciences and research. 2014;5(5): 630-1642
- Preeti choudhary, Parshant Bakshi and Rafiq Ahmad;
 Prospects of Bergenia: A medicinal herb (Pashanbhed).
 2016.
- 30. S.S Gurav and N.S Gurav; A comprehensive review:

 Bergenia ligulata wall- A controversial clinical candidate. International journal of pharmaceutical sciences and research. 2014;5(5): 630-1642
- 31. Sharma P.V., Charaka samhita of Agnivesha, English translation,V1 edition, vol. 11, Chikitsa sthan 26th chapter., Choukambha orientalia, Varanasi, 2001
- 32. Sushruta, Sushruta Samhita, Nidana sthana, (Nibandhasangraha commentary of Sri Dalhanacharya and Nyayachandrika Panjika of Sri Gayadas Acharya of Nidana sthana), Acharya Vaidya Yadavji Trikamji, Varanasi, Chaukhambha Sanskrit Sansthana, Reprint 2005, 33/4, Pp 824, P 144.
- Prof. K.R. Srikanth Murthy, Sushruta Samhita of Sushruta, Chikitsasthana, 7/3, Edition Reprint 2016, Vol. II, Chaukhambha Orientalia, Varanasi, Pp- 516, P 87
- 34. https://www.medicinenet.com/script/main/art.asp?Ar ticlekey=6649
- 35. Dev Raja Radhakanta, Shabda kalpadhruma, First Kand, Jawahar Nagar Delhi, Nag Publishers, P 141, Pp 315.
- 36. Shastri Hari Govind, Amarkosha, Manushyavarga, Dvitiya Kand,6/66, 3rd Edition 1997, Pub: Chaukhamba Sanskrit Sansthana, Varanasi, Pp668, P 284.
- 37. Pt. Paradkar Bhisagacharya Harishastri (Ed), Ashtanga Hrdaya of Vagbhata with the commentaries of

- Sarvangasundara of Arundatta and Ayurveda rasayana of Hemadri, Sutra sthana, 4/4, Edition 2009, Chaukhambha krishnadas Academy, Varanasi, P 53, Pp. 956
- 38. Vaidya Yadavji Trikamji Acharya, Sushruta Samhita of Sushruta, with Nibandhasangraha commentary of Sri Dalhanacharya and the Nyayachandrika Panjika of Sri Gayadasacharya, Nidana sthana,3/4, Reprint 2010, Chaukhambha Sanskrit Sansthan, Varanasi, P 277, Pp824.
- 39. Ayurveda Dipika of Chakrapanidatta, 5th Edition, Chokambha Sanskrit Samsthana, Varanasi, 2001.
- 40. Vaidya Yadavji Trikamji Acharya, Sushruta Samhita of Sushruta, with Nibandhasangraha commentary of Sri Dalhanacharya and the Nyayachandrika Panjika of Sri Gayadasacharya, Nidana sthana,3/13, Reprint 2010, Chaukhambha Sanskrit Sansthan, Varanasi, P 279, Pp824
- 41. Vaidya Yadavji Trikamji Acharya, Sushruta Samhita of Sushruta, with Nibandhasangraha commentary of Sri Dalhanacharya and the Nyayachandrika Panjika of Sri Gayadasacharya, Chikitsa sthana,35/5, Reprint 2010, Chaukhambha Sanskrit Sansthan, Varanasi, P 525, Pp824.
- 42. Vaidya Yadavji Trikamji Acharya, Sushruta Samhita of Sushruta, with Nibandhasangraha commentary of Sri Dalhanacharya and the Nyayachandrika Panjika of Sri Gayadasacharya, Chikitsa sthana,7/22-23, Reprint 2010, Chaukhambha Sanskrit Sansthan, Varanasi, P 436, Pp824.
- 43. Vaidya Yadavji Trikamji Acharya, Sushruta Samhita of Sushruta, with Nibandhasangraha commentary of Sri Dalhanacharya and the Nyayachandrika Panjika of Sri Gayadasacharya, Chikitsa sthana,7/27, Reprint 2010, Chaukhambha Sanskrit Sansthan, Varanasi, P 436, Pp824
- Sen Kaviraj Govindas, Bhaishajya Ratnavali, edited with Siddhipradhahindi commentary by Prof. Siddhi Nandan Mishra, 36/70-71, Reprint 20th edition 2010, Chaukhamba Prakashan, Varanasi, P 718, Pp 1312
- 45. Sen Kaviraj Govindas, Bhaishajya Ratnavali, edited with Siddhipradha hindi commentary by Prof. Siddhi Nandan Mishra, 36/72, Reprint 20th edition 2010, Chaukhamba Prakashan, Varanasi, P 718, Pp1312

ISSN: 2456-3110 REVIEW ARTICLE July 2022

46. https://www.researchgate.net/publication/345162001 _ayurveda_management_of_ashmari_kidney_stone_a _case_study.

- 47. Https://www.netmeds.com/healthlibrary/post/pashanbhed-uses-health-benefitsayurvedic-indications-dosage-side-effects-andprecautions
- 48. https://www.netmeds.com/health-library/post/pashanbhed-uses-health-benefits-ayurvedic-indications-dosage-side-effects-and-precautions.

How to cite this article: Chitranjan Das, Bharati Kumari, Prof. Mahendra Prasad Singh, Shreebhagwan Singh. A Literary Review and Therapeutic Action of Pashanbheda (Bergenia ligulata Wall) described by Shamhita in Ashmari Roga. J Ayurveda Integr Med Sci 2022;6:105-114.

Source of Support: Nil, **Conflict of Interest:** None declared.

Copyright © 2022 The Author(s); Published by Maharshi Charaka Ayurveda Organization, Vijayapur (Regd). This is an open-access article distributed under the terms of the Creative Commons Attribution License (https://creativecommons.org/licenses/by-nc-sa/4.0), which permits unrestricted use, distribution, and perform the work and make derivative works based on it only for non-commercial purposes, provided the original work is properly cited.