

Shilajatu The Panacea: A Review

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Abstract

Shilajatu is one of the most essential raw materials among various rasa dravyas described. It has been greatly acclaimed in classical as well as rasa literature as rasayan and extensively used in practice in the form of rejuvenating agent. In the present study the extracts of various classical and contemporary outcome regarding the shilajatu has been reviewed.

Keywords

Shilajatu, Rasayan and Rejuvenator

INTRODUCTION

Shilajatu is perhaps the most potent rejuvenator and antiaging block buster ever known to mankind. Attributed with many magical properties Shilajatu is found predominately in Himalayan region bordering India, China, Tibet and parts of central Asia. Among the different Rasa dravyas mentioned in the context of Rasayana in Brihatrayi no drug has been given so much importance as Shilajatu ^[1]. The followers of Rasa-shastra supports this view by considering Shilajatu to possess all the properties and actions of Maharasa, Uparasa, Suta, Ratna and lauha's ^[2] (group of minerals, stones, metals & nonmetals used in ayurveda as medicine)

Aims & Objectives

The main aim & object of the study is to review the scattered references regarding shilajatu across the literature and arrange systematically.

MATERIALS AND METHODS

An effort was made to collect and compile all the references spread across the literature and the various researches that have been done based on shilajatu and present in systematic pattern

Classical Categorization

- *Parthiva Dravya* ^[3]
- *Ushakadi Gana* ^[4-6]
- *Dhatwadi Varga* ^[7]

Categorization based on Rasa-Shastra literature

According to *Rasashastra*, *Shilajatu* is categorized in various groups as follows:

Maha Rasa Group – *Rasa hrudaya Tantra* 9/4, *Rasarnava* 7/54, *Rasendra Chudamani* 10/1, *Rasa Prakash Sudhakara* 5/2, *Rasa Ratna Sammuchaya* 2/1, *Goraksha Samhita*, *Rasa Paddhati* Verse no 38, *Rasopanishad* 4/4

Upa Rasa- *Anandakanda Kriyakarana Vishranti* 1/48, *Rasa Manjari* 3/2, *Ayurveda Prakash* 2/349, *Brihat Yoga Tarangini* 43/2, *Rasa Jala Nidhi* Vol 2

Paradadi Varga- *Siddha Bhesaja Manimala* 2/314

Shilajatu in Nighantu

Chandanadi Varga - Dhanwantari Nighantu (3/146) , *Sodhala Nighantu (Verse No 463)* , *Suvarnadi Varga - Madan Pal Nighantu* (4/48-49) , *Madan Vinod Nighantu* (4/68) , *Dhatu Varga - Kaiyadeva Nighantu (Verse 63-64)* , *Bhava Prakash Nighantu (Verse No 80)* , *Uparasa/Mishrakadi Varga - Raja*

Rasa Shastra (Table 1)

S. No.	Classic	Varieties
1	Rasarnava 7/18	Patita & Apatita
2	Rasendra Chudamani 10/95	Gomutrahwa(sub divided as Sa-sara & Nih-sara) & Karpurahwa
3	Rasa Paddhati verse 73	Achalodbhava (sub divided as Sa-satwa & Ni-satwa) & Usharodbhava
4	Rasaponishada 4/14	Tamra varna, Krishna-anjana Prabha & Shankha nibha

On the basis of Shodhan

1. Suryatapi- purified in association with solar heat
2. Agnitapi – purified in association with thermal heat

Unani^[36]

Natural -:

1. Momiai kani or maadni i.e Shilajit pharsi
2. Momiai hazri i.e stone of Shilajit

Nighantu (Verse no 54) , *Dhatu-upadhatu Varga - Shaligram Nighantu (Pg 575-577)* , *Upadhatu Varga - Ayurveda Chintamani (7/11)* , *Vividhaushadhi Varga - Madhava Dravyaguna (1/145)*

Varieties of Shilajatu

Samhita

Shilajatu has been classified into six types since *Samhita* period while *Shivadas sen*^[8] has included two more types to give a total of eight; *Suvarna* (Gold), *Rajata*(Silver), *Tamra*(Copper), *Lauha*(Iron), *Vanga*(Tin), *Naga*(Lead) ,*Manashila*(Arsenic Sulphate) and *Gairika*(Hematite).

Artificial -:

1. Momiai haivani
2. Momiai Shairi
3. Momiai Tarkibi

Purification -:

1. Shilajit Aaphtabi (suryatapi)
2. Shilajit Aatashi (agnitapi)

Classical characteristics of Shilajatu^[37, 38]



- Gomutra Gandhi (smells like cow urine)
- Krishna varna (black in colour)
- Guggulabha (appearance like Commiphora wighti)
- Vi-sharkara (devoid of any foreign matter like any dust, sand, stone etc)
- Mritsna (greasy)
- Snigdha (Unctuous)
- Anamla & Kashaya (should not be sour and must be astringent in taste)
- Mridu & Guru (soft and heavy)

General properties of Shilajatu (Table 2)

Variety	Rasa	Guna	Vriya	Vipaka	Dosakarma
Svarna ^[9]	Madhura, Kasaya	--	Sheeta	Madhura	--
Rjat ^[10]	Kasaya, Amla	Snigdha	Sheeta	Madhura	Pitta vata hara
Tamra ^[11]	Kasaya, Tikta, Madhura, Katu	Laghu	Sheeta	Katu	Kapha Pitta hara
Lauha ^[12]	Kasaya, Madhura, tikata	--	Sheeta	--	Kapha hara
Vanga ^[13]	Tikta, Lavana	--	--	--	Vata hara
Naga ^[13]	Tikta, Lavana	--	--	---	Vata hara

Characters of purified Shilajatu^[44,45]

- Nirdhuma (burns without smoke over fire)
- Lingakar (Erect just like snake or cylindrical shape over fire)
- Salileapyā Vilina (leaves line like thread while settling when placed in water)
- Malina (blackish or off colour)

Therapeutic Indications

Shilajatu by appropriate use acts as *Rasayana* (Anti Oxidant), *Vajikarana* (Aphrodisiacs) and *Rogahara*^[14]. According

to *Vagbhat*^[15] there is no *Sadhya rupa Vyadhi* (curable disease/condition as well as

kricchra sadhya- curable with difficulty) that cannot be treated by *Shilajatu*.

Chemical Characteristics

Shilajatu is a native from the Himalayan region, home to rich plant life right from the prehistoric time. The plants absorb various nutrients and minerals from the soil to form rich and green vegetation. The life span of trees and plants in that particular region extends to some hundred and even thousands of years. After their life span the plants decomposes in earth along with the

minerals and this process continued over a period of many centuries. These remains of the plant life in the specific climatic condition and altitude of Himalayas formed the mineral pitch known as *Shilajatu*.

Shilajatu contains more than 85 minerals^[16] (ionic form) and Fulvic acid. The results of analysis (Table 3) showed that *Shilajatu* is composed of the following substances^[17, 18].

Table 3 Analysis of *Shilajatu*

S. No.	Organic Constituents	Crude <i>Shilajatu</i>	Purified <i>Shilajatu</i>
1.	Moisture	12.54	29.03
2	Benzoic acid	06.82	08.58
3	Hippuric acid	05.53	06.13
4	Fatty acids	02.01	01.30
5	Resin and waxy matter	03.28	02.44
6	Gums	15.59	17.32
7	Albuminoids	19.61	16.12
Inorganic Constituents			
8	Ash	22.88	18.34
9	Silica	4.60	02.69
10	Iron (Fe ₂ O ₃)	00.51	00.64
11	Alumina (Al ₂ O ₃)	02.26	02.61
12	Lime(CaO)	06.83	04.82
13	Magnesia (MgO)	01.20	01.20
14	Potash (K ₂ O)	04.60	03.81
15	Sulphuric acid	00.64	00.97
16	Chloride	00.26	00.57
17	Phosphoric acid	00.28	00.24
18	Nitrogen	03.64	03.36

According to Dr. Michael Hartman^[19] the primary active ingredients in *Shilajatu* are as follows:

- Fulvic acid
- Humic acid
- Humin

- Dibenzo alpha pyrons(DBP)
- Trace minerals

The phytochemical investigation of Shilajit has six new compounds ^[20] named a- shilajityl acetate, shilajitol, shilacatechol, shilaxanthone, shilanthranil and naphshilajatuone along with pyrocatechol and their stereo-structures have been elucidated correspondingly as

Chemistry of Shilajatu Odour ^[21] (Table 4)

Ghosal et al have isolated high and moderately volatile constituents of *Shilajatu* as -

Compounds contributing to odour of <i>Silajatu (Go mutra Gandha)</i> ^[17]	Fixators (Responsible for fixing the odour)
2-ethyl hexanoic acid , M-& P-cersol, ^{3/4} ethyl phenol, naphthalene, benzothiazoles, 2-4 dimethyl quinoline, 2,4-bis-phenol.	High M, aliphatic hydrocarbons alkanal , alkanols, triglyceridies, benthiazole, phospholipids, 2-4-dimethylisoquinoline.

Biological activity

- *Shilajatu* is a potent free radical scavenger due to its Antioxidant activity ^[22-25,17]
- Besedovsky et al, reported influence on endocrine, autonomic, and brain functional changes. Discovery says that these changes can be mediated by cytokines, released by activated immunologic cells ^[26]
- Hikino et al, reported immunomodulator activity ^[27,28]

4a, 5a, 6a-trihydroxygeranyl acetate, 6-(9, 9-dimethylbutyl) phenol, 1-cyclohexyl-3, 4-dihydroxybenzene, 2, 3, 12, 13-tetrahydroxy-10, 15-[a,f]-phenylxanth-17-one, 2, 3, 13, 14-tetrahydroxy-15, 16-[a,f]-phenyl-7H-anthracen-18-one and 3-hydroxynaphthalenyl-6,7-g-lactone on the basis of chemical data analyses and chemical reactions.

- Ghosal et al, reported *Shilajatu* produced significant effects against restraint stress-induced ulcers ^[29]
- Anti-stress activity and rejuvenator ^[30]
- Salil et al, reported *Shilajatu* attenuates streptozotocin induced diabetes mellitus and decrease in pancreatic islet superoxide dismutase activity in rats. ^[31]

Adulteration and substitution

No substitution is found for *Shilajatu* even on *Abhava varga* of *Yoga Ratnakara* ^[32] and *Pratinidhi dravya varga* of *Bhava prakash*

(Mishra Prakarana). But following adulteration reference could be found-

- Sand, Gum, Feces of Goat and Bitumen. [33]
- Mixed with Gum of Vanjha. [33]
- Alum earth of Nepal which is sold in Calcutta as white Shilajatu. [34]
- A product called Momia resembling Shilajatu is obtained from some of the mountains in Arabia and Persia. [34]
- Substances used as Shilajatu in Nepal, Bihar and Bengal in 1844 which on analysis was found to be Aluminium sulphate. [35]
- According to Prof. L.K Dwivedi, former HOD Rasashastra & B K Dept, NIA Shilajatu rock, Neem, Guduchi, Vasa, Bhringaraj, Ghritakumari, Indrayava, Triphala, Gomutra, Karpura shilajatu, Mud of pond and some other substances are mixed together and sold as Shilajatu.

Dose of Shilajatu

Ayurvedic classics always advise that the dose of a drug should be adjusted according to the digestive capacity, environment, age, degree of aggravating dosha & stage of disease etc. Charaka [1] & Vagbhatta [39]

recommended following doses form for Rasayana purpose (Table 4).

- Sushruta in the context of Diabetics' advised one tula (4.8 kg) of shilajatu [40]
- According to Rasendra sara samraha 2-8 gunja (250-1000mg) [41]
- Unani Dravyaguna Adrsha advises for 4 ratti -1 Masha (500-1000mg) [36]

Table 4 Dose and duration of Shilajatu

S No	Administration type	Duration	Doses
1	Pravara (maximum)	7 Weeks	1 pala(48 gms)
2	Madhyama (Intermediate)	3 Weeks	¹ / ₂ pala (24 gms)
3	Avara (Minimum)	1 Week	1 karsha (12 gms)

Impure Shilajatu effects & treatment

[42,43]

If unfortunately unpurified Shilajatu is administrated then following side effects may be seen: Daha (generalized burning sensation/peripheral neuritis), Murcha (syncope), Bharna (vertigo), Raktapitta (bleeding tendencies), Agnimandya (indigestion) etc.

The management ought to be: Maricha (Black Pepper) in a dose of 3 gm with cow ghee for 7 days.

Toxicity^[17]

Shilajatu did not produce any morbidity in Albino mice up to a dose of 1gm/kg body weight.

CONCLUSION

In classics *shilajatu* has been greatly acclaimed not only as *rasayan* but also the curer of the hardly curable disorders even. It

has been included in different groups by different authors. Though the classics have enumerated various varieties of *shilajatu* but commercially only two types are available. Various researchers have worked on analytical and biological effects of *shilajatu* and reported that it contains Humic acid, Fulvic acid etc and is effective as an antioxidant and also against streptozotocin induced diabetes.

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