

ROLE OF *SHILAJATU* AS *RASAYANA*: MODERN PERSPECTIVE

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ABSTRACT

With the quotes like “*Pashyem sharadah shatam, Jivem sharadah shatam*” Vedas advocate that leading a happy life is the fundamental duty of human being. But in present day scenario, sedentary lifestyle habits are the cause of increase in lifestyle disorders. *Rasayana* is the measure which delays the process of ageing both chronologically as well as qualitatively. *Rasayana* literally is *ayana* to *ras* of life i.e. the path to a healthier and happier life. Among the different *Rasayana dravyas*, *Shilajatu* has been given very much importance in *Ras Granthas* as well as *Brihatrayi*. It has been used to arrest the ageing process and induce revitalization since ages. Also in *Charaka Samhita* it is stated that there is no *sadhya roga* on earth which can't be treated with *Shilajatu*. Effects of *Shilajatu* as reported in *Ayurvedic* literature seem to suggest its influence on endocrine, autonomic, central nervous system as well as other systemic changes. *Shilajatu* contains bioactive chemicals like fulvic acid, humic acids, dibenzo-alpha-pyrones, triterpenes, phenolic acids and some trace elements. It is considered as a top rated adaptogen which is highly chelated and bioavailable having properties like anti stress, analgesic, anti inflammatory, anti allergic, cognition enhancer, lowering blood sugar etc. This article elaborates the compiled effects of *Shilajatu* in modern perspective as used in Diabetes, Osteoarthritis, Hypertension, Depression and other non communicable diseases.

Keywords: *Shilajatu, Rasayana, metabolic disorders, lifestyle disorders*

INTRODUCTION

Shilajatu is considered one of the wonder medicines of *Ayurveda*. Neither it is a plant nor animal substance; it is a mineral pitch that oozes from the rocks as they become warm in the summer months due to immense sun heat¹. The word *shilajatu* is comprises of two terms, one *shila* and other *jatu*. The word *shila* denotes rock, which is considered as one of the most important source. The term *jatu* denotes a blackish brown substance, which is similar to *laksha*. *Shilajatu*

is a blackish brown exudation found in the serene surroundings of Himalayas. It is also found in most of the sedimentary rocks especially in Afghanistan, Bhutan, China, Nepal, Pakistan, USSR, Tibet as well in Norway, where they are gathered from steep rock faces at attitudes between 1000 and 5000 m².

Among the different *Rasa dravyas* mentioned in the context of *Rasayana* in *Brihatrayi* no drug has been given so much importance as *Shilajatu*. 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* (group of minerals, stones, metals & nonmetals used in *ayurveda* as medicine). *Shilajatu* acts as *Rasayana* (*Anti Oxidant*), *Vajikarana* (*Aphrodisiacs*) and *Rogahara* with by appropriate use³. According to *Vagbhatta* there is no *Sadhya rupa Vyadhi* (curable disease/condition) as well as *kricchra sadhya* (diseases curable with difficulty) that cannot be treated by *Shilajatu*⁴. *Shilajatu* is perhaps the most potent rejuvenator and antiaging medicine ever known to mankind.

Description Names⁵:

Sanskrit: *Shilajatu*, *Silajit*, *Silaras* (Chopra 1958)

Hindi, Gujarati and Marathi: *Silajita* (Chopra 1958), *Ral-yahudi* (Nadkarni 1954)

Bengali: *Silajatu* (Chopra 1958)

Tamil: *Uerangyum* (Chopra 1958), *Perangyum*, *Uerangyum* (Nadkarni 1954)

Arabic: *Hajar-ul-musa* (Chopra 1958)

Persian: *Momia Faqurual Yahud* (Nadkarni 1954)

Russian: *Mummio*, *Mumie* (Bucci 2000)

English: Asphalt, Mineral Pitch (Chopra 1958), Jew's pitch (Nadkarni 1954), Vegetable Asphalt (Tirtha 1998)

Latin: Asphaltum (Tirtha 1998)

Botanical description: Bitumen mineral (Puri 2003)

Synonyms: *cilajatu*, *cailaniryasa*, *gircavaya*, *cilahva*, *girija*, *caila*, *caileya*, *girijatu* (Dash 1991).

Bioactivity of Shilajatu and Its Constituents⁶

The biologically important classes of compounds of *Shilajatu* include:

- Dibenzo-alpha pyrones, phospholipids, triterpenes and phenolic acids of low molecular weight
- Fulvic acids: "carrier molecules"
- Humins and humic acids
- Trace elements (Fe, Ca, Cu, Zn, Mg, Mn, Mo, P)

Analysis of Shilajatu⁷

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

Benefits of *Shilajatu*^{8,9}:

□ *Disease Modifying Capability of Asphaltum*: This activity is commonly found in autoimmune disorders like Rheumatoid Arthritis and manifests the symptoms. Researchers from Montana State University, USA found carboxylic group fraction of *Shilajatu* and fulvic acids possessing complement fixating property.

□ *Antiaging*: It promotes Youthfulness and Longevity. The minerals and plant nutrients in *Shilajatu* provide powerful antioxidants in body that scavenge free radicals and prevent degenerative changes in body.

□ *Highly Bioavailable and Chelated Minerals*: Minerals need to be chelated, bound to a protein molecule, to be bioavailable. Fulvic acid, a by-product of plant photosynthesis, is the strongest chelating agent known. Fulvic acid is what makes the trace minerals in *Shilajatu* highly bioavailable. They act as free radical scavengers, supply vital electrolytes, buffers pH, enhance and transport nutrients, catalyze enzyme reactions, increase assimilation, chelate macro and trace minerals, and enhance electrochemical balance.

□ *Shilajatu Helps Reduce Risk of Degenerative Disorders*: *Shilajatu* is capable of rendering harmful heavy metals from inside tissues and body harmless by turning them into organic and safe for body. Fulvic Acid converts it into Aluminum Silicate which is safe as it is present in staple foods as beans that we consume in sufficient quantity.

□ *Asphaltum Improves Energy Levels*: It energizes the physiology without overstimulation or any negative effects by providing minerals, trace minerals and organic nutrients.

□ *Asphaltum as Top Rated Adaptogen*: It is also a powerful Adaptogenic that improves natural resistance of body against disorders and enhances immunity.

□ *Shilajatu as Powerful Aphrodisiac for Men and Women*: It is an Aphrodisiac for both men and women. It improves vitality and libido. The health of reproductive system is maintained for optimal sexual enjoyment and fertility.

Research supports

• *Analgesic activity*¹⁰: Aqueous suspension of an authentic sample of *Shilajatu* was found to have significant analgesic activity in albino rats. Observed anal-

gesic activity of *Shilajatu* probably justifies its use in different painful conditions. (Acharya 1988).

• *Anti-Alzheimer*¹¹: *Shilajatu* holds a potential in the treatment of the apparently untreatable and incurable Alzheimer's disease (Mukherjee 1992).

• *Anti-inflammatory activity*¹²: Aqueous suspension of an authentic sample of *Shilajatu* was found to have significant anti-inflammatory activity in albino rats. This research supports the use of *Shilajatu* in Ayurvedic medicine for rheumatism. (Acharya 1988). *Shilajatu* was found to have significant anti-inflammatory effect in carrageenan-induced acute pedal oedema, granuloma pouch and adjuvant-induced arthritis in rats. These results substantiate the use of *Shilajatu* in inflammation (Goel 1990)¹³.

• *Anti-ulcerogenic activity*: *Shilajatu* treatment produced decreased ulcerogenicity in 4 hr pylorus ligated rats. This finding lends credence to the suggested use of *Shilajatu* for peptic ulcers. (Acharya 1988)¹⁴. *Shilajatu* increased the carbohydrate/protein ratio and decreased gastric ulcer index, indicating an increased mucus barrier. These results substantiate the use of *Shilajatu* in peptic ulcer (Goel 1990)¹⁵. Some active constituents isolated from *Shilajatu* are Fulvic acid and 4/-methoxy 6-carbomethoxy bi phenyl. These active constituents were found to have ulcer protective effect as a result a per se decrease in acid-pepsin secretion and cell shedding (Ghosal 1988)¹⁶.

• *Anxiolytic activity*¹⁷: (anti-anxiety activity) The results indicate that *Shilajatu* has significant anxiolytic activity, comparable qualitatively with that induced by diazepam (valium), in doses lower than that required for nootropic activity (Jaiswal 1992). Ayurvedic use of *Shilajatu* as a tonic has some support from studies of the humic acids, fulvic acids, coumarins, and triterpenes that have shown anti-stress effects in animals (Ghosal 1988)¹⁸.

• *Nootropic activity*¹⁹: Nootropic is a word coined by Dr. Giurgea to describe a new class of drugs that act as cognitive enhancers with no side effects or toxicity, from Greek words noos, meaning mind and tropein meaning toward (Giurgea 1973). It has been proposed that the modern equivalent of a *medhya rasayanas* are those substances with nootropic activity (Ghosal

1998)²⁰. *Medhya* is defined as causing or generating intelligence, mental vigor or power. The research found significant nootropic effects, which are consistent with *Shilajatu*'s use as a *medhya rasayana* (enhancer of learning acquisition and memory retrieval) (Mukherjee 1992)²¹. *Shilajatu* can be regarded as a nootropic agent in view of its facilitatory effect on retention of acquired learning, though it had minimal effect on the acquisition of active avoidance learning (Jaiswal 1992)²².

- **Nutritive Tonic**²³: The effect of *Shilajatu* was investigated on the body weight of young rats for a period of one month. The body weight of the rats was found to be significantly greater in the rats taking *Shilajatu* compared with a control group. Researchers suggest a better utilization of food as a cause of the weight gain (Gupta 1966).

Research does not support²⁴

- **Cardiac depressant action**: Findings using frog's hearts, do not support the therapeutic use of *Shilajatu* in cardiac failure as claimed in Indian System of Medicine (Acharya 1988).

- **Cardiovascular system**: no significant action on blood pressure, heart rate and respiration of an anaesthetized dog (Acharya 1988).

- **Smooth and Skeletal muscles**: *Shilajatu* had neither any *per se* effect nor could modify the responses of nicotine, acetylcholine and histamine on isolated guinea pig ileum. *Shilajatu* neither had any *per se* effect nor could it modify acetylcholine response on isolated rectus abdominis muscle of frog. (Acharya 1988).

- **Central Nervous System**: *Shilajatu* in the doses of 50 to 200mg/kg had no significant effect on the general behavior of mice. (Acharya 1988).

- **Bronchial asthma**: *Shilajatu* did not offer any protection against histamine-induced bronchospasm in guinea pigs. (Acharya 1988).

Adverse Effects²⁵: *Shilajatu* may be utilized safely in clinical practice because *Shilajatu* is reported to be quite safe up to a dose of 3 g/kg in mice (24h mortality) (Frotan 1984).

Toxicity: *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 *rasayana* but also the curer of the hardly curable disorders even. 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 various non communicable diseases. Examining the list of modern indications for *Shilajatu*, one can hardly believe that it could have such a wide and varied effect on the human body. The clinical studies on *Shilajatu*, conducted so far; have been conducted on animals only. These studies seem very preliminary and hope is that respected scientists in the United States, India and throughout the world continue their investigations into the healing substance –*Shilajatu*. The results obtained till now are sufficiently impressive to warrant expectation that more extensive and comprehensive studies on *Shilajatu* and its constituents would validate the *Ayurvedic Rasayana, Shilajatu*, as more effective than several currently available clinically efficacious immunomodulators.

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