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MEDICINAL PROPERTIES OF SHILAJIT A REVIEW

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Abstract: *Shilajit is an ancient Ayurveda medicine used as a Rejuvenating substance to support youthfull long lifespan.Shilajit is type of a resin that oozes out from the cracks in the layers of the rocks on the Himalayan mountains During summer, the temperature of the mount gets warm, making the resin less viscous and flow. The resin is light-brown to dark blackish brown. It is water-soluble. Shilajit contains over 85 minerals in ionic form, Fulvic acid, Humic acid, Hippuric acid, and Benzopyrones.in the present time shilajit use as Antidiabetic, Immunomodulatory, Nootropic, Anti-anxiety, Antiviral activity, Anti-inflammatory, Analgesic etc.*
Keywords: *Shilajit, Antidiabetic, Immunomodulatory, Fulvic acid, Humic acid, Hippuric acid.*

Introduction: Shilajit is an exudation from rock during hot sunny days. Though it may be occurring in many parts of the world but India was the first to highlight its tremendous therapeutic value for many centuries BC [1]. Ayurveda mentions it as wonderful medicine. It describes that shodhita Shilajit after bhavana (addition of constituents of a drug to it for a disease to be cured in form of watery extract etc.) can cure even the asadhya diseases and disorders. Nearly all the ancient and medieval texts, which constitute the frame of Ayurveda strongly, upheld the curative action and therapeutic properties of the drug. The Shilajit has been in extensive use in the preparations of a number of medicines and their utility has been most dependable because of this very constituents. Charaka says "there is hardly any curable diseases which can not be controlled or cured with the aid of Shilajit"[2]. It is a powerful tonic and alternative useful in a variety of diseases. In sexual weakness it is generally administered with Asvagandha. Dr. H. C. Sen concludes that Shilajit should be tried extensively in Obesity, Diabetes, Dyspepsia, Anasarca, Enlargements of liver and spleen, Bleeding Piles, Asthma etc. Many Ayurvedic and modern literatures are available regarding Shilajit.

Historical Background of Shilajit

Vedic Age: Hindu culture is the most ancient culture in the world and is preserved in the treasure house of the Vedas. Ayurveda is the branch of Atharva Veda, which is science of healthy living. There are differences of opinions regarding Vedic age. Bala Gangadhar Tilak puts it as far back as 5000 B.C., there is no inscription of Shilajit at the time Vedic era.

Pauranic Age: The author of Brihat Rasaraja Sundara mentions about Shilajit, as quoted in Puranas, where the Shilajit is mentioned as mineral ore, substance of Mandarachala Parvat.During the time of Samudra Manthana Mandarachala and Vasuki Naga were used for churning purpose by Gods and Demons. Due to friction some minerals were produced in Mandarachala Parvata, among these Shilajit was one, the exact date was not known. Various conceptual aspects of Shilajit is found in the ancient literature, it is divided into following–

Synonyms [3]

A. According to place origin- Adrija asamaja, giri,shaila shilaja.
B. According to indication its forms- sveda, jatu, shilajatu,niryasa
C. According to contenrs- dhatuja, suvaradrija,tamradrija, shailadhatu
D. According to season- usanaja

Origin: Shilajit is obtained from rocks in the Himalayan region. It is a form of mineral that drips from the cracks of the rocks during hot weather. It is decomposition of the plant matter in the rocks centuries before. The bio-

transformed plant matter is extruded from the rocks by geothermal pressures. It is collected in raw form for further purification. Walking high in the Himalayan Mountains, a thick rich paste oozing out from the rocks in the towering cliffs is Shilajit. Shilajit is the most important drug of Ayurvedic and folk- medicine systems. In the raw form it is a bituminous substance, which is a compact mass of vegetable organic matter composed of dark red gummy matrix. It is bitter in taste. In the Ayurvedic texts it is called as silajatu or shilajatu, but is commonly known as Shilajit. Its Sanskrit meaning is "conqueror of mountains and destroyer of weakness."Shilajit has been used for thousands of years and for as many different health problems [3,4,5] health practices. The discovery is said to be made by Himalayan villagers observing large white monkeys migrate to the mountains in the warm summer months. The monkeys were seen to be chewing a semi-soft substance that flowed from between layers of rock. The villagers attributed the monkey's great strength, longevity and wisdom to the substance. They began to consume it themselves and reported a broad spectrum of improvements in health. It seemed to give them more energy, relieve digestive problems, Increase sex drive, improve memory and cognition, improve diabetes, reduce allergies, improve the quality and quantity of life and it seemed to cure all diseases.

Types or Varieties [3,4,5,6]

1. According to charak-Suvaran, Rajat, Tamra, Lauha.
2. According to sushrut-Svarna, Rajat, Tamra, Lauha, Vanga, Naga
3. According to gandh-Gomutragandhi (black bitumen), Karpuragandhi (potassium nitrate)

Purification Methods

1. Water extraction method
2. Triphala kwath extraction method

Shilajit benig a natural exudation fron rocks contains a large amount of contaminants like rock pieces, vegetable debris, and soil particles etc. which are to be removed before using it for therapeutic purposes . For purification, crude shilajit is dissolved in water /decoction of Triphala etc and filtered [6].

Tests

On Fire

1. Elongated to lingakara
2. Nirdhuma burning (burnt without fumes)

In Water: Shrinks like a thread without spreading or being dissolved.

Chemical Constituents: Chemical analysis shows that it contains besides gums, albuminoids, traces of resin and fatty acid, a large quantity of benzoic and hippuric acids and their salts. From the medicinal point of view, the chief active substances in it are benzoic acid and benzoates [6,8,9] and including bioactive oxygenated dibeno-alpha-pyrones, tirucallane triterpenes, phenolic lipids and small tannoids. Shilajit, obtained from different sources, has now been standardized on the basis of its major organic constituents [7,10].

General Pharmacological Activities: The general pharmacological activities shown by Shilajit are summarized below:

Anti-inflammatory: Shilajit is a very powerful anti-inflammatory agent. It has been shown to reduce acute chemically induced edema by 77%. The antioxidant properties also help to prevent inflammation.Orally administered Shilajit (50 mg/kg) induced significant anti-inflammatory activity against carrageenan induced pedal oedema [11].

Analgesic: It literally means joint inflammation. The antioxidant and anti-inflammatory properties help to decrease and relieve joint inflammation and pain. The effects on the neurotransmitters in the brain also seem to help relieve joint pain.Studies were conducted in albino mice to determine the effect of 50-200 per kg of Shilajit. The analgesic effect of Shilajit pretreatment were studies using the technique of hot wire induced tail-flick response. Shilajit was found to have analgesic activity (p, 0.001) in the dose of 200mg/kg i.p. The effect was significant during the first 60 min [11].

Antidiabetic: High blood sugar is a growing (literally) health problem today. Millions of people around the world have some degree of high blood sugar and are progressing on to diabetes. Shilajit has long been used for the prevention and treatment of diabetes in Ayurvedic medicine.Shilajit (50 & 100 mg/kg, p.o) had no discernible per se effect on blood glucose levels in normal rats but attenuated the hyperglycemic response of STZ. [12]

Immunomodulatory: Shilajit and its corresponding combined fractions, acted essentially as cell growth factors in both normal and tumour cells by maintaining membrane integrity. Thus, Ayurveda rasayan, Shilajit would be validated as currently available efficacious immunomodulator[5]. It was found that the white blood cell activity was increased by shilajit extract. The observed activity increased as the

dose of shilajit extract and time of exposure was increased [13].

Nootropic: Shilajit at a dose of 50 mg/kg, p.o has significant nootropic activity as shown by passive avoidance learning and retention. It was found that processed shilajit and its active constituents (total ethyl acetate fraction and fulvic acids) significantly increased the learning acquisition and memory retention in old albino rats [14, 15].

Anti-anxiety: Shilajit at a dose of 10 mg/kg, p.o has significant anti-anxiety activity as proved by elevated plus-maze test which is comparable to that of diazepam (1 mg/kg, p.o) [14].

Anti-ulcer: Shilajit pretreatment at the dose of 100mg/kg orally reduced ulcer index in immobilization and aspirin induced gastric ulcers. In duodenal ulcers also, Shilajit pretreatment significantly reduced the incidence of ulcers induced by cysteamine in rats & histamine in guinea pigs [16].

Spermatogenic and Ovogenic Effects: Shilajit in India, is an aphrodisiac. It is well known that Shilajit would return the libido of people to a level of teenagers. Shilajit increases the core energy responsible for sexual and spiritual power. The use of Shilajit for renewing vitality. The administration of Shilajit to rats showed a remarkable increase in the number of sperm of the epidydimus in male rats and in the number of ovulation induced rats in females [15].

Antifungal Activity: Methanolic extract of Shilajit at the concentration of 5000µg/ml was having excellent inhibitory activity against Alternaria cajani (95.12 % spore inhibition) [16].

Protection of Mast Cells from Degranulation: The effects of fulvic acids,4-methoxy-6carbomethoxy biphenyl and 3,8-dihydroxy-pyrone were studied in relation to the degranulation of mast cells against noxious stimuli. Shilajit and different combination of its constituents provided statistically significant protection to antigen-induced degranulation of sensitized mast cells, markedly invited the antigen-induced spasmin of sensitized guinea pig ileum and prevent mast cell disruption induced by compound 48/80 [17].

Free Radical Scavenging and Antioxidant Effect: Antioxidants can safely neutralize a free radical without becoming a free radical them self. Shilajit is a powerful antioxidant that has the added benefit of being able to cross the blood-brain barrier.Shilajit shown free radical scavenging & antioxidant effect against SO3-, OH radical and paramagnetic nitric oxide (NO) depending on the concentration of Shilajit[18]. The antioxidant effects were concentration dependent. Higher concentrations of processed shilajit provided greater free radical protection [19,20].

Cholesterol: Shilajit was found to lower serum cholesterol, liver cholesterol, serum triglycerides and serum phospholipids in test subjects feed high cholesterol diet. Shilajit amplifies the benefits of other herbs by enhancing their bio-availability. It helps transport nutrients deep into the tissue and removes deep-seated toxins. Shilajit improves memory and the ability to handle stress. Shilajit reduces recovery time in muscle, bone and nerve injuries. Shilajit stimulates the immune system and reduces chronic fatigue. It is adaptogen (Rasayana) that helps to combat immune disorders, urinary tract disorders, nervous disorders and sexual dissatisfaction. It promotes strong bones and heals damages muscle tissues, osteoarthritis and porous [21,22].

Antiviral Activity: Shilajit is endowed with both immunopotentiating [23,24,25] and viral load reducing properties [26].

Anti AIDS Activity: Shilajit is endowed with both immunopotentiating [27,28,29,30,31] and viral load reducing properties [32]. Clinical stud-ies in AIDS patients with a multi-component natural product-formulation, comprising three essential and three supportive ingredients, in which shilajit was one of the essential constituents was conducted.

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