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"Meda (Polygonatum verticillatum (L.) All.) An Endangered plant species of Asthavarga- Mentioned in Jivaniya Gana"

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Abstract-
Ayurveda is one of the most well-known traditional medical systems that has persisted and changed over the ages. The creator of the universe gave the sages this comprehensive healing knowledge for the sake of humanity. It is said that this age-old healing method is based on the four well-known compilations of knowledge (Vedas). Several well-known texts, referred to as Samhitas, were written following the Vedic period. in the Samhita Charak. Meda and Mahameda are contained in Jivanya mahakashya. The comparable Sukrajanana mahakashya and Snehopag mahakashya are composed of Meda. Both are mentioned in the Sushruta Samhita's Kakoliyadi gana. These drugs have commendable properties such as vayasthaphan and jivaniya, which are comparable to the antioxidant, anti-aging, and nutritious properties seen in modern pharmacology.
Keywords- *Ayurveda,Samhitas, Asthvarga,Meda*, *Polygonatum verticillatum*.

Introduction-
"Ayurveda" literally means "the way or science of life" (Ayur = life, veda = knowledge). The Atharva-veda, which dates back to 1000–500 BC, is the source of Ayurveda. Its knowledge was recorded in the 1000 BC Charak–Samhita and the 500 BC Sushruta–Samhita, which are regarded as the original texts. One may argue that "Ayurveda" is a veritable gold mine of information regarding therapeutic plants. For thousands of years, every plant that is used for therapeutic purposes has undergone extensive evaluation and classification. This age-old philosophy is founded on a profound comprehension of timeless realities regarding the human body, mind, and soul. In contrast to conventional medicine, it is founded on enduring, prudent, and eternal life principles rather than the constantly shifting results of individual research studies.[1]

Eight plants collectively known as "Asthaverga" are attributed to "Ayurveda" and are used as a tonic, promoting body heat, drying up substantial fluids, acting as a carminative and antitussive, and being helpful in vitiated conditions of pitta and vata, agalactia, seminal weakness, internal and external hemorrhages, cough, bronchitis, burning sensation, and general debility. Two families comprise these eight plants: the 'Liliaceae', which includes mahameda (P. verticillatum), meda (P. cirrhifolium), kakoli (Roscoea alpina/purpurea), and ksheerakakoli (Lilium pollyphyllum); the 'Orchidaceae', which includes jeevak (Malaxis acuminata), rishibhak (M. muscifera), riddhi (Habenaria edgeworthii), and vriddhi (H. intermedia).[2]

There are about 57 species of the Liliaceae or Convallariaceae family, including Meda (Polygonatum verticillatum [L.] All), which is primarily found in China, Japan, and East Asia [3]. Polygonatum has been used traditionally in various medical systems for the treatment of lung conditions like as inflammation and asthma[4]. It also has numerous other health benefits, including antituberculant, antidiabetic, antihypertensive, diuretic, analgesic, and antipyretic properties[5]. The analgesic, antimalarial, antioxidant, metal accumulator, insecticidal, antibacterial, and antipyretic properties of P. verticillatum have also been investigated.[6]

Scientific Classification: [7]

Kingdom- Plantae
Clade-Tracheophytes
Phylum - Angiosperms
Subphylum - Monocotyledons
Order- Liliales
Family- Liliaceae
Genus- Polygonatum
Species- P. verticillatum

Syn- Convallaria verticillata Linn.
English Name: Whorled Solomon's Seal, Whorled leaf Solomon Seal
Sanskrit/ Hindi Name: Meda
Habit: A perennial herb, 0.3-1.2 m in height.
Habitat: it is found all over the world, reaching as high as 4500 meters above sea level in Tibet, Europe, Turkey, North and Central Asia, Pakistan, and Afghanistan. Located in the Temperate Himalayas of India, spanning from Kashmir (2000-3600 m) to Sikkim (2600-4000 m asl), encompassing Himachal Pradesh and Uttarakhand (1600-3500 m asl).[8]
Botanical characteristic features: Tall, angular, simple, leafy above, grooved, glabrous, sometimes mottled, very slender or stout, and occasionally as thick as the middle finger (about 1 cm in diameter); leaves in whorls of 4–8, sessile, linear or linear-lanceolate, 7.5–15 cm long and 0.4–2.5 cm broad; tip usually acute, occasionally obtuse or slightly enrolled to the midrib, membranous, green above, glaucous beneath, frequently ciliolate on the margins and nerves; flowers in whorls of 2-3 flowered axillary raceme, on curved 6–18 mm long peduncle, pendulous, 6–8 mm long, greenish-white or lilac; pedicel 6–18 mm long; jointed at the top; perianth-very variable in size, 4-12 mm long, constricted at the middle, tubular, tube slender, mouth 6-cleft, outer lobes subvalvate; stamens-6, inserted above the middle of the tube; anthers-subsessile, included, dorsifixed; ovary-3-locular or trigonous, stylestraight, as long as the ovary, stigma-3; fruits-6- 7 mm in diameter, globose berries, green when immature and red, orange or purple when mature; seeds-6-10, globose, testa thin; rhizomes- Thick, creeping, like ginger, shortly branched, 0.7-1.5 cm in diameter, comparatively less thick except in very old (7-8 yrs old) plants. Figure 1e shows that the flesh within the rhizome is white or dull white in color.[9,10.]
Flowering: July-August. **Fruiting**: September-October.
Active ingredients: Lysine, serine, aspartic acid, threonine, diosgenin, β-sitosterol, sucrose, and glucose are all found in rhizomes. Hemicellulose, glucofractone, and glucomanone are found in leaves.[11]
Properties & Action: In addition to being a diuretic, it is advised in cases of weakness, pyrexia, pain, and burning sensations. Rhizome: appetizer, emollient, tonic and galactagogue, and aphrodisiac. Leishmania major, which causes Kala azar, was shown to be susceptible to leishmanicidal action in the aerial parts extract[12].
Ayurvedic Properties of Meda-[13]

Properties	**Meda**
***Polygonatum verticillatum* (L.) All.**	
Family	Liliaceae
Rasa	Madhur
Guna	Guru
Veerya	Sheeta
Vipaka	Madhur
Dosa Karma	Vaat-pitta Shamaka
Karma	Stanyakaraka, Medavardhaka, Brighaniya, shukrajanana,Balya, Snehopaga

Medicinal uses of Meda *(Polygonatum verticillatum* (L.) All.) in Ayurvedic Text-:[14,15,16,17,18]
1. Regular use of rhizome powder improves other renewing qualities and reduces senility and debility.
2. These therapeutic herbs balance the three doshas of Pitta, Kapha, and Vatta and are Jivaniya (vitality

promoters). This improves the body's energy, strength, radiance, and other characteristics.
3. When combined with Meda and other herbs, Mahamayur ghrita is processed and beneficial in cases of rasaraktadi dhatu gat vikara, srotaradiindriya vikara svarabhransa (Aphesia), blood disorders, asthma, cough, facial paralysis, and problems connected to semen.
4. Consuming a powder made from meda and other herbs combined with the right amount of honey and crystal sugar can help with heart conditions and cough.
5. Vachadi taila, when combined with meda and other herbs as anuvasanavasti, is helpful for diseases related to vata, distention, gulma, and incontinence.
6. Mahapadma taila, when combined with meda and other herbs, can help treat fever and gout.
7. Gout and other chronic vata-related illnesses can be effectively treated with Jivaniya ghrita, when processed with Meda and other herbs.
8. The intake of ghrita processed with Devadaru, Kakoli, Jivaka and other medicinal herbs given in proper dose is useful in child emaciation.
Part used: Rhizomes.
Dose: Powder 2-3 gm
Formulations: Vachadi taila, Astavarga churna, Chyavanprash rasayan, Chitrakadi taila, Mahakalyan ghrita, Mahamayura ghrita, Mahapadma taila, Jivaniya ghrita, Brahini gutika, Vajikaran ghrita and Indrokta rasayan.[19]
Substitutes: Satavari (*Asparagus racemosus* Willd.), Salam mishri (*Eulophia campestris* Wall.)

Discussion-

In Asthvarga, meda (Polygonatum verticillatum (L.) All.) is one of the most valuable plants. It is a member of the Liliaceae family. This article includes descriptions of the habitat and plants. It serves as a skin tonic, galactagogue, appetizer, antipyretic, antimalarial, and perhaps aphrodisiac. It is suggested that P. verticillatum and P. cirrhifolium grow together because "Abhinav niguntu" documents that "Meda" grows from the same location as "Mahameda." The mucilage found inside the rhizomes of several plant species is referred to as "meda." To gather sufficient data for the study, additional literature is screened from journals, internet sources, contemporary and modern literatures, as well as traditional Ayurvedic literature. The qualities of Meda (Polygonatum verticillatum (L.) All.) are stated in the following nighantus: Madanpal, Bhavaprakash, Kaiyadeva, Raja, and Dhanwantari.

Conclusion-

The meda plant (Polygonatum verticillatum (L.) All.) is a significant medicinal plant that has been documented in historical literature. Nevertheless, there is limited information available about its medicinal usage because it was passed down orally from the indigenous population to the following generation. Since there hasn't been much scientific research done on Meda (Polygonatum verticillatum (L.) All.), the information in this review about its chemical constituents, biological activities, botanical aspects, and Ayurvedic paradigm will help researchers investigate new phytochemicals and medicinal properties that haven't been studied before. To fully comprehend the active therapeutic roles that alkaloids play in Ayurvedic remedies, more research on the chemistry and biology of alkaloids is required.

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