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Introduction

A. racemosus is used since Pre-vedic times and remarkably mentioned in our natural herbal system i.e. ayurvedic literatures. It grows 1-2 m long and its roots goes in gravelly, rocky soils high up in piedmont plains, at 1300-1400 m elevation [4]. Some of the medicinal properties of *A. racemosus* are antispasmodic, anti-allergic, anti-neoplastic activities, anti-oxidant, anti-diabetic, anti-malarial, hepatoprotective, enhance immune responses, anti-arthritic, anti-inflammatory, anti-periodic, Anti-ulcerogenic action, immunomodulatory, antistress, Anti-diarrhoeal, Antidepressant, anti-leprotic, anti-abortifacient activity, antibacterial, antipyretic and analgesic. Saponins are mainly present in its roots, for example, shatavarin I-IV, the glycosides of sarsasapogenin [5]. It has secondary metabolites which includes steroids, alkaloids, dihydrophenanthrene derivatives, flavonoids, furan derivatives and essential oils (Tables 1 and 2).

Geographical Source: It is widely spread across the earth and found in tropical Africa, Australia, Sri Lanka and South of India, but India is highest producer of Shatavari. This plant is counted in one of the endangered species.

Cultivation and Morphology: Crops mainly require the tropical, hot and humid climate. Black soil is preferred for cultivation. Minimal irrigation is required. Harvesting can be started from 1.5-2 years till 10-15 years. *A. racemosus* plant usually blooms in June to July. Morphology of *A. racemosus* is:

Roots: 5-15 cm long, 2 cm thick, externally silvery white (ash color), internally white, longitudinal wrinkle upon drying, 18-24 layer

cortex, 42-47 middle tuberous root, turns brown on drying [7].

Seeds: Hard and brittle, black color.

Fruit: Small, round, globular, 3-lobed, purplish black pulpy berries, turn from raw green to ripened blackish purple.

Flower: Small and uniform in size, white flower having spikes with pink tinge, pollinated by bees, aromatic, unisexual.

Phytochemicals: *A. racemosus* consists of wide variety of chemicals in which major component is steroidal saponins along with alkaloids,

then reduced gastric secretion, low ulcer patches and free acidity was observed. Satavari mandur, formulation of *A. racemosus* given in the dose of 1.5 g, twice daily for a month displayed noteworthy

kshyajit, krimihara, kanthya, arsha, krichra, pushtida.

Shatavari Ayurvedic Formulation

Shatavari Guggulu

Guggulu pacifies Vata doshas, stimulates neuromuscular actions, muscles strengthening, nerve revitalization and treats condition like paralysis and hemiplegia. It has shatavari, giloy, ashwagandha, padmaka, pippali, saunf, ajwain, sonth, gandha prasarni, gokshura, rasna, kachur, shuddha guggulu, cow's ghee. Small Vatakam of all ingredients (one powdered mixture with ghee) can be stored in a glass jar as medicine. 1-2 Vatakam with water/warm milk can be taken twice a day in empty stomach or 1 hour before a meal or 2 hours after a meal.

Shatavari Kalpa

Shatavari Kalpa is amalgamation of shatavari and elaichi to enhance breast milk production and reduce pain and fatigue. It balances the vata and pitta dosha. It improves immunity and stamina in menstruation, during pregnancy and post-natal. 4g shatavari, 0.05g elaichi, 5.95g sugar in each 10 gm formulation. Sieve the sun-dried grinding powder of sugar and elaichi and mix with melted sugar. Cooled solution can be rolled into small granules and stored in container. It is used as anti-inflammatory, antioxidant, carminative, estrogenic, galactagogue. Dose is 1-2 tsf two times a day with warm milk.

Effect on Doshas

Shatavari has Snigdha (oily) and Guru (heavy) guna which leads to appease the pitta (fire and air) doshas. It has Madhur (sweet) and tikta rasa (bitter). It has shita viraya (cold potency) and Madhur vipaka (sweet metabolic taste) which often aggravates kapha (earth and water) doshas (Table 8).

Conclusion

A. racemosus is an important medicinal plant from ancient times. It is used for making allopathic, ayurvedic and homeopathic medicines. In this review a brief evaluation of Shatavari properties are discussed to explain the practical clinical applications of various parts of the plants. Considerable work has been done to explore the biological activity and medicinal applications of the plant and major studies were reported using root extracts of the plant; still the active principle involved behind these activities needs to be explored. There are several therapeutic applications viz. antioxidant, diuretic, antidepressant, antiepileptic, antitussive, anti-HIV, immunostimulant, hepato-protective, cardio-protective, antibacterial, anti-ulcerative, neurodegenerative. Several studies have been conducted on different parts of *A. racemosus*, this plant has developed as a drug by pharmaceutical industries. The uniformity of quality and quantity both are prime important for this medicinal plant as it depends on active principle in it.

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