A REVIEW OF MANDUKAPARNI (CENTELLA ASIATICA) AS AN EFFECTIVE VAYASTHAPANA DRUG: AYURVEDIC AND MODERN APPROACH

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Ageing is a natural inevitable phenomenon of physical, psychological and social change in a multi-dimensional aspect. Ayurveda advocates an excellent approach to control ageing in a systematic manner with the help of Rasayana therapies. This anti-ageing intervention is aimed at slowing down the ageing process so as to extend the functional life of a person. Charaka identified ten such drugs and listed them under Vayasthapana Dashemani; Mandukaparni is one of such drug possessing anti-ageing property by minimizing the intensity of problems occurring in this degenerative phase of one’s life. It is a medicinal plant found in marshy places throughout India. Although it is more commonly used as brain tonic (Medhya Rasayan), it has several other medical applications which can provide significant relief in common complaints of ageing (Jara). It is reported to reduced fatigue, insomnia, weakness, dyspnea on exertion, body-ache, knee pain and low-back pain. It also significantly improves the enthusiasm, ability to work and digestion. Mandukaparni also provides protection against diseases by substantially increasing humoral immunity through elevated levels of IgM and IgG. It possesses significant free radical quenching and other antioxidant attributes in consonance with the traditional view of Vayasthapana when subjected to measure of modern scientific scrutiny. This paper thus details the use of Mandukaparni as Vayasthapana drug with remarkable properties such as antioxidative, anti-anxiety, laxative and detoxifier for blissful ageing.

Key words: Mandukaparni, Ageing, Vayasthapana, Antioxidant, Immunity

Introduction

Ageing is a natural inevitable process during which structural and functional changes occurs in an organism with passage of time. Ayurveda considers aging as the Swabhava or nature of the living being which is regarded to be a time-bound entity and it biologically ceases to exist
through senescence and death. Aacharya Vagbhatta and Sarangdhara have described the time-bound biological human aging in terms of sequential loss of certain biological qualities specific to different decades of life. Although the exact cause of aging and its mechanism is not yet clearly understood, it is known to be controlled largely by genetic, immune and endocrine mechanisms besides many other allied contributing factors (1). Ayurveda offers an excellent approach to control ageing by compensating the biolosses in a systematic manner with the help of appropriate life-style, nutrition and rejuvenative Rasayana therapies.

*Rasayana Tantra* is one of the eight branches of Ayurveda which deals with therapeutic nutrition, immuno-enhancing and longevity. Its main aim is to achieve long and healthy life. It included various aspects such as memory, complexion and strength of senses. The Rasayana remedies of Ayurveda are essentially molecular nutrients and nutrition enhancing agents acting through three basic mechanisms:

1. Rasa enhancing (direct nutrient effect)
2. Agni enhancers (promoters of digestion and metabolism)
3. Srotas purifying agents (promoters of microcirculation and tissue perfusion)

This leads to improved nutritional status in the body leading further to the formation of cells and tissues which sustain aging and stress (1). *Mandukaparni* is one of such well known rasāyana drug.

*Mandukaparni (Centella asiatica)*

The term *Mandukaparna* literally means a plant having leaves resembling the shape of frog from its backside as the stolons of this plant grow in a manner of jumping frog. It is a stoloniferous small creeping herb having shovel shaped leaves emerging alternately in clusters and rooting at stem nodes (2, 3). This medicinal herb is mainly found in marshy places throughout India. Aacharya Charaka has mentioned Mandukaparni as one of the ten drugs under Vayasthapana Dashemani, the group of drugs that are capable of maintaining the youthful vigour and strength. It is first amongst the best four medhya rasāyana drugs. The Medhya Rasayanas are a special class of Ayurvedic nutraceuticals which are specific to brain and nervous system. They are claimed to promote cognitive functions of the brain as related to brain aging (1). The characteristics and conventional pharmaco-dynamic properties of Mandukaparni are described in Table 1 (9).
Table 1

<table>
<thead>
<tr>
<th>Latin Name</th>
<th>Centella asiatica</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms</td>
<td>Manduki, Ekparni, Brahmanduki, Gotukola</td>
</tr>
<tr>
<td>Family</td>
<td>Apiaceae</td>
</tr>
<tr>
<td>Rasa</td>
<td>Tikta, Kashāya</td>
</tr>
<tr>
<td>Guna</td>
<td>Laghu</td>
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<tr>
<td>Virya</td>
<td>Sheeta</td>
</tr>
<tr>
<td>Vipaka</td>
<td>Madhura</td>
</tr>
<tr>
<td>Prabhav</td>
<td>Medhya</td>
</tr>
<tr>
<td>Part used</td>
<td>Panchang (whole plant)</td>
</tr>
</tbody>
</table>

*Mandukaparni* has sara and laghu properties and promotes intellect (*medhā*), life span and memory. It is indicated in chronic obstinate skin diseases (*kushtha*), anemia, excessive urine (*meha*), cough, poisoning, edema and fever (1, 8). Mandukaparni is easily digestible, nutritive and fever curer. It is also useful in bronchitis, inflammation and asthma. It improves memory, diet and voice. The whole plant is reported to be a nervine and cardiotonic, astringent and diuretic (4, 5). As it is tikta and kashay rasatmak, madhur vipak and sheeta virya it pacifies mutragat pitta and thus helps in pittaj prameh. It improves the rasa circulation of skin and hence it is used in *kushta* (skin disorders), *jerna vrana*, shlipad, *kshayaja vrana* and *firanga* (6).

**Phytochemicals of Centella asiatica**

The plant extract contains asiaticoside, an active principle of *C. asiatica*, in which a trisaccharide moiety is linked to a glycone asiatic acid. The other triterpenoid derivative isolated from *C. asiatica* is called madecassol. These triterpene saponins and their sapogenins are probably responsible for the wound healing and vascular effects. *Centella asiatica* contains a blend of triterpenes that have antioxidant benefits and also stimulate collagen synthesis for tissue regeneration. They probably enhance formation of collagen in bones, cartilage and connective tissue (3).

Other components isolated from *C. asiatica*, such as brahmoside and brahminoside, may be responsible for CNS and uterorelaxant actions, but are yet to be confirmed by clinical studies.
Centelloside and its derivatives are found to be effective in the treatment of venous hypertension. In addition, the extract also contains plant sterols, flavonoids and essential oils (3).

Immunoglobulins form an important part of the humoral immune system which provides effective protection from the diseases. Studies indicate that *Mandukaparni* provides significant improvement in all the general symptoms of the age related issues. It also considerably increases serum IgG and IgM levels; IgG protects the mucus membrane of the body and is concerned with general immunity whereas IgM is a first class immunoglobulin with 10 sites for destruction of antigen (7).

**Conclusion**

*Mandukaparni* due to its various medicinal properties forms an important vayasthapana drug. It acts as *medhya rasayan* thus boosting the brain and nervous system preventing degenerative changes. It also prevents several other age related problems and can be used to reduced fatigue, insomnia, weakness, dyspnea on exertion, body-ache, knee pain and low-back pain. Its antioxidative property also prevents cells and tissue damage caused due to free radicals. It increases the general immunity during ageing thus providing protection from several diseases related with old age. Thus *Mandukaparni* can effectively help in blissful ageing.

**References**


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