MEDICINAL PROPERTIES OF APAMARG (ACHYRANTHES ASPERA LINN.)

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ABSTRACT

The Indian system of medicine, Ayurveda, a medical science practiced for a long time for disease free life. It relies mainly upon the medicinal plants for the management of various diseases. Among these herbs Apamarg (Achyranthes Aspera Linn.) is very important and easily available herb mentioned in Vedic literature and in Atharvaveda, considered as lord of all plants on earth. This medicinal plant found as a weed throughout India up to 900 m. Though almost all of its parts are used in traditional system of medicines, seeds, roots, and shoots are the most important parts, which are used medicinally. The present article gives important information on therapeutic uses, traditional medicinal uses mentioned in various Samhitas and Nighantus, phytochemical and pharmacological properties of modern era.

KEY WORDS: Apamarg, Achyranthes aspera, Phytochemistry, Pharmacological properties.

INTRODUCTION

In Regveda there is no reference about this plant, in Yajurveda has referred Apamarga by saying “Apamarga, please prevent us from ill actions and bad dreams”. Accordingly Apamarga can enhance the will power and controls the minds of the persons who ever uses it[1]. Saktu (powder) of Apamarga having the Rakshagna (Antimicrobial) property and remove the excessive water from the body[2].

Atharvaveda refers Apamarga at about eleven places. It considers this drug as the Lord of all plants on earth because it can increase life span by wiping away all the diseases. Apamarga is useful to cure diseases caused by thirst and hunger, defects of the organs, speech; sterility, physical debility and all other ailments[3].

Atharvaveda describes that Apamarga can sweep away chronic diseases, the evil habit of using foul language and also the ailments which cause severe pain as well as decrease in vitality[4].

Achyranthes aspera Linn. is an important medicinal plant which is found as a weed throughout India up to 900 m. It has been used all the parts in traditional systems of medicines like Ayurveda, Unani and Siddha. Seeds, roots and shoots are the most important parts those can be used as a medicine.

Apamarga is one of the herbs mentioned Bruhatryis in different groups, Shiroyirecana dashaimani[5], Krimigna dashaimani[6], Vamanopaga dhashamani[7], Arkadi ganag[8][9] shirovirecana ganag[10], Kakolyadi ganag[11] Viratarvadi ganag[12], Shyamadi ganag[13], Tikta varga[14,15].

Apamarga is one of the Ksharas (caustics) mentioned as Kshrapancaka[16], Ksharasapakaka[17], Ksharasaktaka[18-22] Ksharadhashaka[23].

Apamarga is the best among the drugs used for Nasya/Sirovirecana, for this purpose the seeds, which are famous as Apamarga Tandula, due to the importance of Apamarga, Caraka denoted a chapter as Apamarga Tandulya (Ca. Su. 2nd chapter).

Gouradanda Apamarga (a variety with white stem) by Vagbhata mentioned in pumsavana[24,25] indicates towards another variety of Apamarga in the Samhita.

In Nighantu (Ayurvedic Lexicons) Apamargas described in two types 1. Sveta (white variety) 2. Rakta (red variety), But in kalyadeva nighantu mentioned 3 variety Apamarga[26]
1. Apamarga (white)
2. Vashira (red)
3. Ramatha (blue)

Rajanighantu mentioned 3 varieties Apamarga[27]
1. Apamarga
2. Raktapamarga
3. Kshudrapamarga

**SCIENTIFIC CLASSIFICATION**

- Kingdom: Plantae
- Subkingdom: Tracheobionta
- Unranked: Angiosperms
- Super Division: Caryophyllidae
- Division: Caryophyllales
- Subclass: Mangoliopsida
- Class: Caryophyllales
- Order: Caryophyllales
- Family: Amaranthaceae
- Genus: Achyranthes
- Species: Aspera
- Binomial name: Achyranthes aspera
- Synonyms: Achyranthes Aspera Linn.

**Ayurvedic Properties**

- **Rasa**: Katu, Tikta
- **Guna**: Laghu, Ruksa, Tikshna
- **Virya**: Usna
- **Vipaka**: Katu
- **Karma**: Pacify Kapha and Vata, evacuates Kapha and Pitta, Sirovirecana, Sodhahara, Vedana sthapanam, Lekhan, Visaghna, Tvak Dosahara Vrana Sodhana, Dipana-Pacana, Medohar.
- **Indications**: Kandu (itching), Kusta (skin disorders), Visa (scorpion & snake bites), Kapha & Pitta

**Botanical Description**

A stiff erect herb, 30-90 cm high, branches spreading, leaves are opposite, velvety, tomentose, 3.8-12.7 cm × 5.1-7.6 cm. flowers are bisexual, greenish white, arranged in long spikes, inverted.

Plant herbaceous, erect; root angular and longitudinally furrowed, colour greenish or reddish; leaves opposite and obovate, margins wavy; surface covered with whitish hairs, spikes terminal, long and generally curved about the middle; flowers small and of a reddish color; bracts green, old bracts tough, rigid, prickly and adhering to the clothes; fruits conical, covered with sharp pointed bracts and containing numerous seeds; seeds oblong and of a shining pale brown color, taste like that of bajari grams.

The drugs sold in the market under the name of Aghada bija is the whole fruit[54].

Distribution- common as weed throughout India.
Vata diseases, Vrana (Wound), Karna Roga (ear diseases), Netra Roga (eye diseases), Aruci (loss of taste in food), Cardi (vomiting), Agnimandya (anorexia), Sula (pain), Udararoga (abdominal diseases), Arsa (piles), Krimi (worm infestation), Hrdroga (heart disease), Pandu (anaemia), Gandamala (lymphadenitis), Amavata (rheumatoid arthritis), Kasa (cough), Svasa (asthma) Mutraghata (urinary obstruction).

Note- The fruits of Apamarg are Madhura in rasa and Vipaka in nature but leads to constipation means fruits are vistambhi[61].

Internal administration: Sthula, Udararoga, Krimi, Hrudroga, Rakta vikara, Shvasa, Kasa, Vrukka shota, Ashmari, Kushta, Visucika, Sarpa dosha.

Useful part: Tandula, Patra, Mula, Panchanga.

Dose:
- Svarasa : 10-20 ml
- Decoction : 50-100 ml.
- Root powder : 2-4 gr.
- Seed powder : 500-700 gr.
- Kshara : 0.5-2 gr.

Important preparations and indications

<table>
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<tr>
<th>S.No</th>
<th>Important preparations</th>
<th>indications</th>
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<tbody>
<tr>
<td>1.</td>
<td>Apamarga ksara tail[62,63]</td>
<td>Karnanada (tinnitus), Badirya (deafness) (Ear diseases)</td>
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<td>2.</td>
<td>Apamarga ksaradi lepa[64]</td>
<td>Warts of penis</td>
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<td>3.</td>
<td>Apamarga navanita[65]</td>
<td>Suryavarta (Severe migraine)</td>
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<td>4.</td>
<td>Apamarga svarasa[66]</td>
<td>Raktsarva in Vrana (Haemorrhage from accidental wounds)</td>
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<td>5.</td>
<td>Apamargadi taila[67,68]</td>
<td>snuff (Worm infestation)</td>
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<td>6.</td>
<td>Agasthya Rasayana[69]</td>
<td>Rasayana (Rejuvenation), Jvara, Kasa (cough), Hrdroga, Pratisyaya</td>
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<td>7.</td>
<td>Haritaki rasayana[70]</td>
<td>Rasayana (Rejuvenation),</td>
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<td>9.</td>
<td>Apamarga Varti[72]</td>
<td>Excessive menstrual flow</td>
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<td>10.</td>
<td>Samshodana taila[73]</td>
<td>For cleansing in wounds</td>
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<td>11.</td>
<td>Apamarga ksara[74]</td>
<td>For Pratisaraniya kshara (caustics for external use) in various diseases.</td>
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Apamarga is one of the herb in management of Kaphaja Timira as a fumigation[77], Vataja nadi (sinuses)[78], in the management of Splenomegaly[79], Specific treatment in Paripatoka (ear lobule diseases) [80], Utptaka (ear lobule complications)[81], seeds powder as a avapida snuff in Apaci (cervical Lymphadenopathy)[82], collyrium prepared with Flower of Apamarga can useful in Praklinnavartman (eye lid disease)[83], Apamarga is one of the drugs to encourage Granulation Tissue formation (Utsadana)[84] and medicinal recipes in the treatment of Ashmari (urinary calculi) and Sharkara (gravel)[85], Arshas (piles)[86].

Phytochemical studies

Chemical constituents

Betaine, achyranthine, hentriacontane, ecystosterone, achyranthes saponins A,B,C,D are the major chemical constituents found in Apamarg[87]. The seeds of Apamarg contains α-L-rhamnopuransol-(1→4)-(β-Dglucopyranosuluronic acid)-(1→3)- Oleanolic acid, α-L rhamnopuransol-(1→4)-(β-
Dglucopyranosyluronic acid)-(1→3)- Oleanolic acid,28-O-β-D-glucopyranoside and α-Lrhamnopyranosyl-(1→4)-(β-D-glucopyranosyluronic acid)-(1→3)-oleanolic acid-28-O-β-Dglucopyranosyl-(1→4)-β-D-glucopyranoside[89].

Ethanolic extracts of the roots of Achyranthes aspera linn. isolated a new aliphatic acid and it has been identified as n-hexacos-14-enolic acid[89]. This compounds reported for the first time from any natural and synthetic source, certain other compound were also isolated and identified as strigmasta-5, 2-dien-3-β-ol, trans-13-docasenoic acid, n-hexacosanyl n-decaniate, n-hexacos-17-enolic acid. Rameswar isolated chemical compounds of the volatile oil from Achyranthes aspera leaves[90].

PHARMACOLOGICAL STUDIES

The root Apamarga shows Spermicidal[91], Post coital antifertility[92], Anti-inflammatory and anti-arthritic effects[93], Methanolic extracts of leaves of Achyranthes aspera have shown different activities against 22 microorganism (bacterial and fungal)[94], Crude leaf extract shown antiviral activity against Papaya viruses[95].

Leaf shows the Algesic and antipyretic[96], Antipyretic[97], Antibacterial and antifungal[98], Antifertility[99], Mosquito larvicidal[100], Cancer chemo preventive[101], Antioxidant[102], Anti-depressant[103], Wound healing[104], Antiparasitic[105].

Whole plant shows Abortifacient[106], Antibacterial activity against various pathogenic strains such as Escherichia coli, Pseudomonas aeruginosa, Citrobacter species, Bacillus subtilis and Micrococcus species[107], Free radical scavenging[108], Nephroprotective[109], Bronchoprotective[110], Anti-allergic[111], Immunomodulatory[112], Hypolipidemic[113].

Powder of whole plant shows Hypoglycemic effect[114], Flower and seed extract shows the Antiparasitic[115], Aerial parts shows Hepatoprotective[116], Seeds shows the Antipyretic[117], Antimicrobial[118], Anti-oxidant[119], Diuretic, Cardiovascular[120], Leaves from extracts in various solvents shows the antimicrobial effect in E. coli E. aerogenes S. aureus P. aeruginosa in the isolates organisms from patients of diabetes[121].

Uses

The whole plant and especially the roots, characterized by their anti-inflammatory and uterine stimulant activity, are prescribed in the rheumatism, lumbago, osteodynia, dysuria, post-partum haematometra and dysmenorrheal. The seeds are nutritious when cooked with milk and are a potential source of food; the roots are astringent; their paste is applied to clear opacity of cornea and to wounds as an haemostatic; it is reported to be useful in cancer. A decoction of the roots is used for stomach troubles, and an aqueous extract for stones in the bladder.[122]

THERAPEUTIC USES

1. The root of Apamarg is taken with water in Visuchika.[123]
2. In Sidhma seed of Mulaka and fresh juice of Apamarg is made to paste and applied externally.
3. Decoction of Kakjangha, Apamarg, Kokilaksa and Suparnika is useful in Nidranasa (insomnia).
4. The root of Apamarg and piper negrum is used in snake poison.
5. The decoction of Apamarg, Yastimadhu, Gokshur and Patha is used for urinary tract infection.
6. Apamarg kshar is used in chronic cough disease with Pippali, Ativisha, Kupilu, Grith and Madhu.
7. Apamarg root is made paste with Tanduloodak and used with honey in Arsha. The paste of seed of Apamarg is used for Raktrash as externally.
8. In Ashmari, Apamarg kshar is used with sheep milk.
9. The juice of Apamarg is painted on gums in toothache.

CONCLUSION

The plant Apamarg (Achyranthes Aspera Linn.) is found and commonly distributed throughout the tropical world, growing as a common weed. Traditionally, this plant using since Vedic period to present days using in the treatment of many diseases. Now a days many experimental studies proves many medicinal values and using in various diseases. It can be
concluded that the drug *Apamarga* proved to have extensive medicinal value in the treatment of diseases.

**REFERENCES**

4. Ibid.
6. Ibid; pp.91-92
7. Ibid.; pp.93-94
11. Ibid; pp.307
12. Ibid; pp.310
17. Ibid
19. Rajanighantu of Pandit Narahari by Dr.Indradev Tripathi, Chowkambha Krishnadas Academy, Varanasi. 2006; pp.667
23. Rajanighantu of Pandit Narahari by Dr.Indradev Tripathi, Chowkambha Krishnadas Academy, Varanasi. 2006; pp.667
27. Rajanighantu of Pandit Narahari by Dr.Indradev Tripathi, Chowkambha Krishnadas Academy, Varanasi. 2006; pp. 79
29. Nighantu Aadarsh, Bapalal G.Vaidya Published by Chaukamba Bharati Academy, Varanasi, Volume 2nd page 301,302
30. Sharma P.V. Dravya Guna Vijnana Vol.2nd published by Chaukamba Bharati Academy, Varanasi. page no.542
33. Rajanighantu of Pandit Narahari by Dr.Indradev Tripathi, Chowkambha
Krishnadas Academy, Varanasi. 2006; pp. 78-79
34. Illustrated Madanapala Nighantu by J.L.N. Shastry., Chaukhambha Orientalia, Varanasi. 2010, p. 76
42. e-Book on Carakasamhita with Ayurvedadipika commentary of Cakrapanidatta, by National Institute of Indian Medical Heritage, Hyderabad, Andhra Pradesh, India.
44. e-Book on Carakasamhita with Ayurvedadipika commentary of Cakrapanidatta, by National Institute of Indian Medical Heritage, Hyderabad, Andhra Pradesh, India.
48. Ibid; pp.305, 311
50. e-Book on Sushrutasamhita with Nibandhasangraha commentary of Dalhana and Nyayacandrika commentary of Gayadasa, by National Institute of Indian Medical Heritage, Hyderabad, Andhra Pradesh, India.
51. e-Book on Sushrutasamhita with Nibandhasangraha commentary of Dalhana and Nyayacandrika commentary of Gayadasa, by National Institute of Indian Medical Heritage, Hyderabad, Andhra Pradesh, India.
57. Rajanighantu of Pandit Narahari by Dr.Indradev Tripathi, Chowkhamba Krishnadas Academy, Varanasi. 2006; pp. 78-79

Available online at : http://ijapr.in
65. Ibid; pp. 520
66. Ibid.; pp.364
67. Ibid.; pp.519
74. Ibid.; pp.89
77. Ibid; pp.89
79. Ibid.; pp.295
80. Ibid.; pp.398-399
86. Ibid; pp.224-226
116. Bafna A R and Mishra S H. Effect of methanol extract of Achyranthes aspera L. on rifampicin


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