Review Article

Review article on Bhedaneeya Mahakashaya

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ABSTRACT

Detailed description of Bhedaneeya Mahakashaya is mentioned in Charaka Samhita Sutra Sthan a fourth Chapter. The word Bhedana, means “Breakthrough”. The action by which solid or liquid Purisha and Malas i.e. Buddha Mala or Abuddha Mala, will be expelled downwards (through Guda marg) is called as Bhedana. Bhedantya Mahakashaya in Sanskrit denotes for a group of medicinal plants, classified as “promoting excretion”. Amongst Charakoktha dashemani gana i.e. group of drugs which is listed in fourth place. When viewed in depth of 50 Mahakashayas, it is observed that, Shamanoushadhis and Shodhana dravyas are also mentioned for preventive and curative purpose. Whereas Shodhana Chikitsa includes Vamana, Virechana, Niruha, Anuvasa and Shirovirechana. Virechana is a type of Shodhana process that comes in Panchakarma and it involves purgation. In the present study the authors have made sincere efforts to enlighten on Bhedaneeya Mahakashaya dravyas explained under Shadvirechana Shataashriteeya Adhyaya, which includes Suvaha, (Operculina terpethum Linn.) Arka (Calotropis procera Linn. R. Br), Urubuka, (Ricinus communis Linn.), Agnimukhi, (Gloriosa superba Linn.), Chitra, (Baliospermum montanum Mull. Arg.), Chitraka, (Plumbago zeylanica Linn.), Chiroubila, (Holoptelia integrifolia Planch.), Shankhini, (Euphorbia dracunculoides Lam.), Shakuladini, (Picrorhiza kurroa Royle.ex Benth.) Swarnakshiri (Euphorbia thomsoniana Boiss.) for their Morphological, Pharmacognostical, Pharmacological study.

1. Introduction

The Mahakashayas are one of the wonderful concepts explained by Acharya Charaka mentioned under Shad Virechana Shatashriteeya Adhyaya. This chapter explains five hundred drugs by using which Kashayas can be prepared and are grouped in to 50 groups of 10 drugs each. Among them Bhedantya dashemani is the fourth group.¹ Mahakashayas serves both external and internal cleansing. There are some Mahakashayas which are add on for formulations used in Shodhana Chikitsa to fortify the action of Shodhana like Vamanopaga Mahakashaya and Virechanopaga Mahakashaya and their ingredients have therapeutic action of Vamana and Virechana respectively. Bhedaneeya means the action by which solid or liquid purisha and mala i.e., buddha mala or abuddha mala, will be expelled downwards through Guda marg (anus).² Four dissimilar types of Virechana karma are being mentioned by Sharngadhara, that is Anuloma, Sramsana, Bhedana, and Rechana.³

This Mahakashaya consists of ten drugs which are used for purification, to treat the chronic disease and for purgation purpose in various disorders. These ten drugs possess different Rasa, Guna, Veerya and Vipaka but their action is Bhedana karma on the body. The drugs used in Bhedaneeya Mahakashaya for purification grows in different climatic conditions with different habitat, and the parts used...
for Bhedaneeya karma are also different like roots, latex, bark etc.

2. Materials and Methods

Here drugs of Charaka’s Bhedaneeya Mahakashaya from Shadavirechana Shataashriteeya Adhyaya are considered for detailed discussion.

2.1. Drugs of Bhedaneeya Mahakashaya

Suvala (Operculina terpethum Linn.), Arka (Calotropis procera Linn. R. Br.), Urubukha (Ricinus communis Linn.), Agnimukhi (Gloriosa superba Linn.), Chitra (Baliospermum montanum Mull. Arg.), Chitraka (Plumbago zeylanica Linn.), Chirabivla (Holoptelia integrifolia Planch.), Shankhini (Euphorbia dracunculoides Lam.), Sakuladini (Picrorrhiza kurroa Royle ex Benth.), Svarnakshiri (Euphorbia thomsoniana Boiss.)

2.2. Detail description of each drug.

2.2.1. Suvala / Trivritta (Operculina terpethum Linn.)

It is a climber belongs to the family Convolvulaceae. Two varieties of Trivrit (Shweta and Shyama) are described by Bhavaprakash in Gudachayadi varga. Nishoth is having Ruksha Gunna; Kashaya (Astringent), Madhura (Sweet) Rasa (Taste); and Ushna Veerya. By the virtue of its Ushna veerya, its mode of action is observed as Swedana and Virechana karma (S.Su.-41).

The laxative effect of Trivrit is mainly due to the presence of turpethein, as the laxative activity of Operculina turpethum leaves was investigated using in vivo models; fecal consistency, intestinal motility and interopooling in mice. Laxatives are agents which enhance the evacuation of unfomed watery faeces from the entire colon. They act by: enhancing retention of intestinal fluid by hydrophilic or osmotic mechanism, decreasing net fluid absorption by effects on small and large intestinal fluid and electrolyte transport, and stimulation of intestinal motility. The extracts of Operculina turpethum leaves demonstrated a potent cathartic activity through causing discharge of watery stool, enhance intestinal motility and increase in intestinal fluid content, which were comparable to the effects produced by castor oil.

2.3. Arka (Calotropis procera (Linn) R. Br.)

Is a shrub belongs to family Asclepiadaceae, Bhavaprakash mentions two types of Arka i.e. Arkadaya (Shweta Arka and Rakta Arka). Acharya Bhavamishra has explained the properties and action of flower and latex of Arka dvaya. The properties of both the Arkas are similar. Its root bark and latex is specially used for Rechana. Bhedana property of Arka is mainly due to its Ushna Veerya (S.Su.-41) and tikshna guna (Malashodhaka or Malasaraka). According to Dunecan the root bark is said to be similar to Ipecacuanha because of the presence of madaralban which showsemenic effects.

2.3.1. Urubuk / Eranda (Ricinuscommunis Linn.)

It is an annual shrub of family Euphorbiaceae which is popularly known as ‘Castor plant’ and commonly known as ‘palm of christ’. It is of two types described by Bhavamishra (Shweta and Rakta Eranda). Acharya Bhavamishra has mentioned Rakta Erand is having lesser properties in comparison with Shweta Eranda. Erand taila acts as purgative due to Ushna Veerya (S.S.Su.-41) and Guru Guna (Malasaraka).

At present, FDA recognizes Castor oil as generally safe and effective for over-the-counter use as a laxative drug. When the Castor oil is taken, it is converted into ricinoleic acid which is the active laxative agent. It directly acts on intestinal mucosa or nerve plexus and alters water and electrolyte secretion. Castor oil is preferred when more complete evacuation is required. The seeds of the plant are used as the fertilizer after the oil is extracted from the seeds and cooked to destroy the toxins and incorporated into animal feed.

2.3.2. Agnimukhi / Langali (Gloriosa superba Linn.)

It is a beautiful climber which belongs to family Liliaceae. The tuberous root of Langali is used for Bhedana karma. The action of Bhedana of Langali is due the Tikshna (Malashodhaka or Malasaraka), Sara Guna and Ushna Veerya (Malasaraka). It is indicated in skin diseases (Kustha), swelling, piles, wound and pain. It is also used for abortion of unwanted pregnancy in female. The colchicine which is a major component of Gloriosa is mainly responsible for toxic effect (Vishwanathan and Joshi, 1983).

The toxins present have an inhibitory action on cell division, and depressant action on the bone marrow. Just after Ingestion of tubers, the symptom develops within two hours; vomiting, numbness and severe effects on throat as well as diarrhea leading to dehydration. Alopecia and dermatitis are the major symptoms develop after two to three weeks after poisoning (Jayaweera, 1982).

Traditionally, water extract of Gloriosa superba tuber has been used as an abortifacient.


2.3.3. Chitra / Danti (Baliospermum montanum Mull.-Arg.)

It is a shrub belonging to the family Euphorbiaceae Upachitra, Chitra are the synonyms as seeds are mottled. Danti is Synonym based on Karma (Pharmacological property) as it destroys the Arsha (piles) and Kushtha (skin...
diseases).

Its root and seeds are used for Bhedana karma. For the removal of Vikasi guna purification of Danti is required. The properties of Danti are Katu rasatmakam (Pungent Taste) Tikshna (Malasarakaraka) and Sara gunatmakam; and having Katu (Pungent) Vipaka and Ushna Veerya (Virechaka). Due to Tikshna and Sara guna and Ushna Veerya, Danti acts as purgative.

The aqueous extract of the root when it is tested for its purgative action on animal models showed positive results at a dose of 600 mg/kg body weight. A preliminary phytochemical analysis of the drug powder shows the presence of anthraquinones and carbohydrates which are believed to be active constituents in the purgative action.

G.V.R. Joseph, Pharmacognostic study on the Roots of Baliospermum raziana keshav Et Yog; 2002.15

2.3.4. Chitraka (Plumbago zeylanica Linn.)

Is an annual herb of family Plumbaginaceae. Chitraka root is used for medicinal purpose According to Yogaratnasamuccayam, there are three types of Chitraka-black, white and red.15 Vagbhata’s Astangahrdhayam mentions three types of Chitrak viz. yellow flowered, white flowered, black flowered–more effective in successive order. These when uses as per proper procedure, they act as rejuvenator.16

The pharmacological properties of Chitraka are Laghu, Ruksh and Tikshna Guna; Katu (Pungent Taste) Rasa; Katu Vipaka and Ushna Veerya. Its Bhedaniya karma is unknown as mentioned by Bhavaprakash. Its action of Bhedana or Virechana karma is done by its Tikshna Guna (Malasarakaraka) and Ushna Veerya (Virechaka-Su.Su.41). Roots of Chitrak are best appetite stimulant (Deepana), digestive (Pachana) and best remedy in anus inflammation, piles and abdominal pain.17

2.3.5. Chirabilva (Holoptelia integrifolia Planch.)

It is a medium size tree belonging to the family Ulmaceae. Bark and leaves are used as bitter, astringent, thermogenic, anti-inflammatory, digestive, carminative, laxative, anthelmintic, depurative, repulsive, and urinary astringent.18 The properties of Chirabilva are Laghu, Ruksha in guna; Tikta (Bitter), Kashaya (Astringent) in Rasa; Katu (Pungent) in Vipaka and Ushna in Veerya. Its stem bark is used for medicinal purpose. Bhedan karma of Chirabilva is due the the Ushna Veerya (-Su.Su.41). Ethno-medically, the leaves and stem bark of this plant have been used by tribes as antiviral, antioxidant, antimicrobial, abortifacient preparations and in the management of cancer. Recent studies on plant show that it has potential to fight against tumor and obesity as well.

2.3.6. Shankhini(Euphorbia dracunculoides Lam.)-

Even though it is enlisted under controversial drug. Some efforts are made by scholars for identification of this drug.

Euphorbia dracunculoides Lam. (Euphorbiaceae) is reported as a new record for the flora of Yemen.19 Euphorbia dracunculoides of family Euphorbiaceae during previous studies had established the in vitro antioxidant and in vivo anti-inflammatory activities. The plant is used by the local communities of Pakistan for various disorders including rheumatism and edema. Recent scientific studies showed hepato protective effects against CCl4 induced toxicity in rat.20

2.3.7. Shakuladani/Kutaki (Picrorhiza kurroa Royle ex Bent) Is a perennial herb of family Scrophulariaceae, the properties of Shakuladini are Laghu, Ruksha Guna; Tikta (Bitter taste) Rasa; Katu (Pungent) Vipaka and Sheeta in Veerya. The Bhedana karma of Kutaki is due to its Prabhava.

Kutaki possesses surface lowering action. The drug due to surface lowering action facilitates penetration into the fecal mass thus soften it; which scientifically supports the Bhedana action mentioned in Ayurveda for Kutaki. Kutaki does not contain anthaquinine and is non-irritant. It also does not swell in water. “Gurudip Singh and GN Chaturvedi, Mode of purgative action of Kutaki (Picrorhiza kurroa)- a chemical assay; published in JAPS; Vol.3, Issue 3, July 2016.”

Picrorhiza is used in India for the people with constipation due to insufficient digestive secretion., “The Ayurvedic Pharmacopoeia of India, Part-I, Government of India Ministry of Health and Family welfare Department of Ayush, 2007; 2: 91-93.”

2.3.8. Swarnakshiri (Euphorbia thomsoniana Boiss.)

It is also a controversial drug. Argemone maxicana is not original Swarnakshiri, It is the substitute/ adulterant of Swarnakshiri. The root and seeds of Argemone maxicana shows Bhedana Karma. It is having Tikta (Bitter Taste) Rasa; Katu (Pungent) Vipaka and Ushna Veerya. Its Bhedana Karma is due to Ushna Veerya (Su.Su.41).

The habit of all 10 drugs mentioned in Bhedaniya Mahakashaya differs from each other. Among these drugs, some are climber, herbs, shrubs and medium size trees. These are clearly depicted by Table 1.

Useful parts of medicinal plants play an important role to achieve desired therapeutic effect. Even different parts of same plants vary in their chemical constitution and pharmacological action. The useful parts of drugs of Bhedaniya Mahakashaya are are not similar it varies from drug to drug, but their action is almost similar i.e Bhedana karma; The action of every drug is most oftenly due to its Veerya potency.
The Table 3 shows that most of the drugs are having Tikta (Bitter) and Katu Rasa and Laghu, Ruksha Guna. And few drugs are having Madhura rasa.

Majority of drugs are having Ushna Veerya and Katu Vipaka and only few are having Sheeta Veerya.

The Table 4 shows Veerya and Vipaka of each drug.

Due to the presence of following Phytochemicals, drugs show the purgative property as mentioned in Table 5.21

3. Discussion

Bhedaniya Mahakshaya is the fourth Mahakshaya of Dashemani gana of Charaka Samhita. The drugs which are mentioned under this Dashemani gana are classified on the basis of karma of dravya, thus dravyas mentioned in Bhedaniya Mahakshaya show Bhedan Karma. The drugs collected in this group are having different Habits like herb, shrub, tree and climber (Table 1) and most of them belong to the family Euphorbiaceae. Morphologically drugs of this class are herb, shrub and climber and their almost useful parts are roots and seeds (Table 2). As we know that Bhedan Karma of these dravyas are based on their Rasa, Guna, Veerya and Vipaka (Table 3); most of the dravyas of this group are having Katu (Pungent), Tikta (Bitter Taste) Rasa and Laghu, Ruksha Guna with Katu Vipaka and Ushna Veerya (Table 4).

Most of the drugs of this group useful parts are roots and seeds having phytochemicals like turpentine, beta-sitosterol and terpene content, Castor oil and ricinoleic, Prostaglandin receptors 2, the bitter principles, superbine and gloriosine in less quantity, Axillarene acid, 12-deoxy-5 beta-hydroxyphorbol-13-myristrate, 13-palmitate, 12 deoxyphorbol 13-palmitate, baliospermin, and montanin, plumbagin, 3-Chloroplagmibagin, 3, 3-biplumbagin binaphthoquinone, holptelin-A (epi-friedelolin palmitate) and holoptelin-B (epifriedelolin stearate), friedelin and epi-friedelinol, 2-aminonaphthoquinone and beta-sitosterol, glycosides picroside I, II and III, picrorhizin, kutkoside, androstilin, kurrin, kuthinol, kutkisterol, kutkoside, androsin, apocynin, drosin and cucurbitacin. These stimulates the mucosa of gut, irritates local reflexes, increases the peristalsis by irritation of nerve endings of intestine. Further it induces contraction of the intestinal smooth muscles and increases the secretion by irritating the mucous membrane of the gastrointestinal tract as well as its motility which leads to purgation.

4. Conclusion

Here it is concluded that most of the drugs used in Bhedaniya Mahakshaya are of Euphorbiaceae family; their root and seeds are useful for Bhedana Karma according to the Dravyashtha Katu (Pungent) and Tikta (Bitter Taste) Rasa, Laghu, Ruksha and Sar Guna, Ushna Virya, and Katu Vipaka.

Bhedana dravyas may be included under cholericets. Due to the presence of the phyto-chemicals like turpentine, beta-sitosterol and terpene content, Castor oil and ricinoleic acid, the bitter principles, superbine and gloriosine in less quantity, baliospermin, and montanin, plumbagin, picrorhizin, kutkoside etc induce contraction of the intestinal smooth muscle, which further effects forceful constringtion of gall bladder leading to the expulsion of excessive bile into the gastro-intestinal tract. This causes increased peristaltic movement leading to purgation. The recent scientific studies proved that the actions of Bhedaniya Mahakshaya drugs are purgative in nature when used judiciously.
Table 3: On the basis of Rasa and Guna

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Plant name</th>
<th>Rasa (Taste)</th>
<th>Guna (Qualities)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Operculina terpethum Linn. R.Br.</td>
<td>Madhur (Sweet)</td>
<td>Ruksha</td>
</tr>
<tr>
<td>2.</td>
<td>Calotropis procera R. Br.</td>
<td>Katu (Pungent), tikta (Bitter)</td>
<td>Laghu, ruksha, tiksha</td>
</tr>
<tr>
<td>3.</td>
<td>Ricinus communis Linn.</td>
<td>Madhur (Sweet)</td>
<td>Guru</td>
</tr>
<tr>
<td>4.</td>
<td>Gloriosa superb Linn.</td>
<td>Tikta (Bitter), katu (Pungent) and kashaya (Astringent)</td>
<td>Laghu, tiksha</td>
</tr>
<tr>
<td>5.</td>
<td>Baliospermum montanum Muell-Arg.</td>
<td>Katu (Pungent)</td>
<td>Tikshna, sar</td>
</tr>
<tr>
<td>6.</td>
<td>Plumbago zeylanica Linn.</td>
<td>Katu (Pungent)</td>
<td>Laghu and ruksha</td>
</tr>
<tr>
<td>7.</td>
<td>Holoptelia integrifolia Planch.</td>
<td>Tikta (Bitter), Kashaya (Astringent)</td>
<td>Laghu, ruksha</td>
</tr>
<tr>
<td>8.</td>
<td>Euphorbia dracunculoides Lam</td>
<td>Not described</td>
<td>Not described</td>
</tr>
<tr>
<td>9.</td>
<td>Picrorhiza kurroa Royle.ex Benth.</td>
<td>Tikta (Bitter)</td>
<td>Laghu, ruksha</td>
</tr>
<tr>
<td>10.</td>
<td>Euphorbia thomsoniana Boiss.</td>
<td>Not described</td>
<td>Not described</td>
</tr>
</tbody>
</table>

Table 4: On the basis of Vipaka and Veerya

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name of the Drug</th>
<th>Vipaka</th>
<th>Veerya</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Trivritta (Operculina terpethum Linn. R.Br)</td>
<td>Katu (Pungent)</td>
<td>Ushna</td>
</tr>
<tr>
<td>2.</td>
<td>Arka (Calotropis procera R. Br.)</td>
<td>Katu (Pungent)</td>
<td>Ushna</td>
</tr>
<tr>
<td>3.</td>
<td>Eranda (Ricinus communis Linn.)</td>
<td>Madhur (Sweet)</td>
<td>Ushna</td>
</tr>
<tr>
<td>4.</td>
<td>Chitra (Gloriosa superb Linn.)</td>
<td>Katu (Pungent)</td>
<td>Ushna</td>
</tr>
<tr>
<td>5.</td>
<td>Chitraka (Plumbago zeylanica Linn.)</td>
<td>Katu (Pungent)</td>
<td>Ushna</td>
</tr>
<tr>
<td>6.</td>
<td>Chirabilva (Holoptelia integrifolia Planch.)</td>
<td>Katu (Pungent)</td>
<td>Ushna</td>
</tr>
<tr>
<td>7.</td>
<td>Shankhini (Euphorbia dracunculoides Lam.)</td>
<td>Not described</td>
<td>Not described</td>
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<tr>
<td>8.</td>
<td>Kutaki (Picrorhiza kurroa Royle.ex Benth.)</td>
<td>Katu (Pungent)</td>
<td>Sheeta</td>
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<td>9.</td>
<td>Swarnaksheeri (Euphorbia thomsoniana Boiss.)</td>
<td>Not described</td>
<td>Not described</td>
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</table>

Table 5: On the basis of Phytochemicals

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Plant name</th>
<th>Phytochemicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Operculina terpethum Linn. R.Br.</td>
<td>Alpha and beta turpethins, turpethinic acid, coumarin, scopoletin</td>
</tr>
<tr>
<td>2.</td>
<td>Calotropis procera R. Br.</td>
<td>Alpha and Beta amyrins, Beta-sitosterol, calotropin, calotropain, proceroside, proceragenin</td>
</tr>
<tr>
<td>3.</td>
<td>Ricinus communis Linn.</td>
<td>Arachidic, ricinoluc, palmitic, hydrocyanic and uric acid</td>
</tr>
<tr>
<td>4.</td>
<td>Gloriosa superb Linn.</td>
<td>Colchicina, puteolin, beta-sitosterol, isoperlolyrine, cornergina, bechuanina</td>
</tr>
<tr>
<td>5.</td>
<td>Baliospermum montanum Muell-Arg.</td>
<td>Baliospermum montanin, axillarenic acid</td>
</tr>
<tr>
<td>6.</td>
<td>Plumbago zeylanica Linn.</td>
<td>Chiraranona, plumbagin, isozyelinona, droserone, plumbagic acid, beta-setasterol, dihydrostrostra</td>
</tr>
<tr>
<td>8.</td>
<td>Euphorbia dracunculoides Lam.</td>
<td>D-mannitol, kutkiol, kutkisterol, kutkin, picrorhizin, phenolglucosides</td>
</tr>
<tr>
<td>10.</td>
<td>Euphorbia thomsoniana Boiss.</td>
<td></td>
</tr>
</tbody>
</table>
5. Source of Funding
None.

6. Conflict of Interest
None.

References

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