

PHALATRIKADI KVATHA - AN AYURVEDIC HEPATOPROTECTIVE DRUG

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ABSTRACT

Ayurveda is the science that came into existence since ancient era. Ayurvedic classical formulations and single herbs have been tested for thousands of years on people and have proved safe. There are many drug are given as Hepatoprotective in ancient classics. *Phalatrikadi kvatha* is one of the important prestigious formulations, which is successfully used from the ancient period. This formulation has been mentioned in the context of *Pandu* and *Kamala*, in *Cakradatta*, *Yoga Ratanakara*, *Sharangadhara Samhita* and *Vrinda Madhava* but first time described in *Siddhasara samhita*, as the name of *Phalatrika*. *Phalatrikadi kvatha* contains eight drugs which are having predominately Hepatoprotective properties.

Keywords: *Ayurveda*, *Phalatrikadi kvatha*, Hepatoprotective, *Kamala*.

INTRODUCTION

In *Ayurvedic* classics a good number of drugs and their formulations have been mentioned for *Kamala roga cikitsa*. *Phalatrikadi kvatha* is one of the important prestigious formulations, which is successfully used from the ancient period. *Phaktrikadi kvatha* is a well known *Ayurvedic* dosages form mentioned in various *Ayurvedic* classics. But the ingredients and indications of *Phalatrikadi Kvatha* formulation are varied in different classics. In *Caraka Samhita* and *Bhaishajyaratnavali* it is prescribed for *Prameha*^{1,2}.

This formulation has been mentioned in the context of *Pandu* and *Kamala*, in *Cakradatta*,

Yoga Ratanakara, *Sharangadhara Samhita* and *Vrinda Madhava*³⁻⁶.

In the *Ratnaprabha* commentry of *Niscalkara* on *Cakradatta* 8/7, he described that this *Phalatrikadi kvatha* was first time mentioned in *Siddhasara samhita*, as the name of *Phalatrika*⁷. *Phalatrikadi kvatha* contains eight drugs which are having predominately *Kamalahara* properties like – *Pitta-Kapha Shamaka*, *Yakriduttejaka*, *Shothahara*, *Pandurogahara*, *Recana*, *Dipana* etc. *Kvatha* of *Triphala* (*Amalaki*, *Haritaki* and *Bibhitaki*), *Amrita*, *Vasa*, *Tikta*(*Katuka*), *Bhunimba*, and *Nimba tvaka* taken with Honey relieves *Kamala* and *Pandu*.

Table1: Ingredients, parts and ratio of drugs used for the preparation of *Phalatrikadi kvatha*

Ingredients	Part used	Botanical name	Family	Ratio
1. <i>Amalaki</i>	Fruit	<i>Emblca officinalis</i> Gaertn.	Euphorbiaceae	1 part
2. <i>Bibhitaki</i>	Fruit	<i>Terminalia bellerica</i> Roxb.	Combretaceae	1 part
3. <i>Haritaki</i>	Fruit	<i>Terminalia chebula</i> Retz.	Combretaceae	1 part
4. <i>Guduci</i>	Stem	<i>Tinospora cordifolia</i> Miers.	Menispermaceae	3 part
5. <i>Vasa</i>	Leaf	<i>Adhatoda vasica</i> Nees.	Acanthaceae	3 part
6. <i>Kalmegha</i>	Whole plant	<i>Andrographis paniculata</i> Nees.	Acanthaceae	3 part
7. <i>Nimba</i>	Bark	<i>Azadirachta indica</i> A. Juss.	Meliaceae	3 part
8. <i>Kutaki</i>	Root	<i>Picrorrhiza kurroa</i> Royale ex Benth.	Scrophulariaceae	3 part

Important and specific macroscopic identifying characters of the plant parts used as ingredient are as follows:

1. **Amalaki (*Embllica officinalis* Gaertn.)** – Dried pieces are tough and cartilaginous and almost unbreakable by hand; each piece about 1 to 2 cm. in length and 1 cm. in breadth shows a broad convex reticulately wrinkled outer surface and two somewhat flat transversely wrinkled lateral surface which converge inward to form a narrow concave internal surface; attached with fibrous vascular strands of the mesocarp, pieces of hard endocarp and sometimes seeds also; dried fruits are greyish white, dark brownish or black in colour. In raw drug market it is present in as brown to black colour pieces of different size.
2. **Haritaki (*Terminalia chebula* Retz.)** – Fruit is a hard stony drupe, greenish yellow in colour, odourless, ovate, longitudinally wrinkled 3.5 to 4.0 cm. in length, 1.5 to 2.0 cm. wide; has 5 to 6 ridges (longitudinal ribs). In some, the basal portion is narrower and somewhat elongated on tapering; taste astringent.
3. **Bibhitaki (*Terminalia bellirica* Roxb.)** – Fruit is a dry drupe, spherical to ovoid irregularly round, 1.2 to 2 cm. in diam., dirty whitish brown externally, velvety surface shrunk and somewhat irregularly wrinkled showing 5 longitudinally ridges; upper end of the fruit is depressed while the lower end is projecting and shows round scar of pedicel up to 5 mm in diam.
4. **Amrita (*Tinospora cordifolia* Miers.)** – Stem is succulent, soft; possessing long, filiform, aerial roots arising from branches. Bark warty, creamish white or grey brown; wood soft, perforated. Dried sample consists of 5 to 10 cm. long conical pieces, light in weight; bark light and papery, brittle, dark brown; wood with longitudinal surface ridges, and radially divided into wedge shaped pieces in cross- sections. Pieces difficult to fracture when fully dried and can be torn only by twisting; odourless; taste bitter.
5. **Vasa (*Adhatoda vasica* Nees.)** – The leaf is simple, entire, wavy, ovate lanceolate, attenuate at base, apex

acuminate, 6 to 14 cm. long, 3 to 4.5 mm broad, midrib prominent at the lower surface, slightly grooved on the upper surface, lateral veins 6 to 10 pairs arising at the angle of 45° to 60°, running parallel to each other, somewhat glabrous but minutely puberulous on the veins, odour not characteristic, taste slightly bitter.

6. **Bhunimba (*Andrographis paniculata* Nees.)** - It is an erect branched annual, 0.3-0.9 meters high, branches sharply quadrangular winged in the upper part; **leave** - lanceolate, acute, undulate, and pale beneath.
7. **Katuki (*Picrorrhiza kurroa* Royale ex Benth.)** –Rhizomes are sub cylindrical, straight, usually possess apical buds, which are surrounded by a tufted crown of leaves. The roots are thin, cylindrical in pieces, 5 to 10 cm. long 0.5 to 1 mm in diameter, slightly curved with a few longitudinal wrinkles, dotted scars and dusky grey in colour. Fracture is tough, inner surface black with whitish wood. The odour is pleasant and the taste is bitter.
8. **Nimba (*Azadirachta indica* A. Juss.)** - Bark is channeled, tough, fibrous, brownish gray with a rough scaly surface. Internally bark is yellowish, laminated and coarsely fibrous.

DISCUSSION

Caraka has mentioned in the 16th chapter of *Cikitsa Sthana* “*Kamali-tu-virecanama*”. According to the description of this chapter *Virecana* is the best method among the all treatments of *Kamala roga* (*Kosthasakhashrita* i.e. infective Hepatitis). General principle of treatment of this disease is *Sodhana* and *Sanshamana cikitsa*. *Katu*, *Ushna*, *Tikta*, *Lavana* and *Amla* food help to bring the *Pitta* in the *Kostha* from the *Sakha*. It should be used till the *Pitta* comes in stool and subsides complication of *Kamala roga*. Prof. R.H. Singh has decided some milestones for a drug to be called as hepato-protective. These includes as-

- Capacity of hepato-cellular regeneration
- Cholegogue and cholertic activity
- Membrane stabilizing effect
- Antiviral and antioxidant effect
- Molecular nutrient effect
- Enzyme and metabolic corrections

The above mentioned drug can be considered as hepato-protective on the basis of above parameters because they-

- **Choleratic and cholegogue action**

It is more potent with *Picrorhiza kurroa*. proved many times *Katuki* to a jaundice patient the serum bilirubin level falls constantly. This is only possible when the bile passage is cleared and flow of bile was maintained⁸.

- **Membrane stabilizing effect and antioxidant effect**

These are inter-related. As free radicals, which were generated, are collected in the extra-cellular fluid normally but in the diseased condition they are in excess and are not cleaned out by normal body physiology. Then they start damaging the cell membrane. The anti-oxidants scavengers these excessive free radical, in this way the properties of most of drugs i.e. *Amalaki*⁹, *Bibhitaki*⁹, *Katuki*¹⁰, *Kalmegha*¹¹ and *Amrita*¹² have been already proved. In this way they can protect the biological membranes of liver.

- **Hepatocellular damage**

Liver cells have tremendous capacity to regenerate, the abnormal function of Kupffer cells causes hurdle in process of liver regeneration. *Amrita*¹³, *Kalmegha*¹⁴ and *Katuki*¹⁵ have been reported by researches that it is having the capacity to suppress the Kupffer cells, which are major determinant of outcome of liver injury.

- **Antiviral effect**

Picrorhiza kurroa has been reported that of having anti-hepatitis B antigen activity¹⁶. *Tinospora cordifolia* is established as an immune-modulator, so it is useful in improving the immunity against viral infection but it cannot destroy the virus at all. It may also be useful in autoimmune hepatitis. In our Ayurvedic texts *Amrita* is also considered as *Rasayana*¹⁷.

- **Enzyme and metabolic corrections**

This can be the drug, enzyme level causes to normal especially in the liver enzymes like SGOT, SGPT and Alkaline PO₄. Improvement in the clinical symptomatology as in appetite and digestion of food indicate that these drugs are having the capacity to correct the metabolic process¹⁸⁻²⁰.

Table 2: Properties of Phalatrikadi kvatha

S.No.	Ingredient	Rasa	Guna	Virya	Vipaka	Dosha Karma
1.	<i>Amalaki</i>	<i>Pancha rasa (Alavana, Amla Pradhana)</i>	<i>Laghu Ruksha</i>	<i>Sita</i>	<i>Madhura</i>	<i>Tridosahara</i>
2.	<i>Haritaki</i>	<i>Pancha rasa (Alavana, Kashaya Pradhana)</i>	<i>Laghu Ruksha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Tridosahara</i>
3.	<i>Bibhitaki</i>	<i>Kashaya</i>	<i>Laghu Ruksha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Tridosahara</i>
4.	<i>Amrita</i>	<i>Tikta, Kashaya</i>	<i>Guru, Snigdha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Tridosahara</i>
5.	<i>Vasa</i>	<i>Tikta, Kashaya</i>	<i>Laghu Ruksha</i>	<i>Sita</i>	<i>Katu</i>	<i>Kapha-Pittahara</i>
6.	<i>Kutaki</i>	<i>Tikta</i>	<i>Laghu Ruksha</i>	<i>Sita</i>	<i>Katu</i>	<i>Kapha-Pittahara</i>
7.	<i>Kalmegha</i>	<i>Tikta</i>	<i>Laghu Ruksha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kapha-Pittahara</i>
8.	<i>Nimba</i>	<i>Tikta, Kashaya</i>	<i>Laghu</i>	<i>Sita</i>	<i>Katu</i>	<i>Kapha-Pittahara</i>
Phalatrikadi Kvatha		<i>Pancha rasa (Alavana, Tikta, Kashaya Pradhana)</i>	<i>Laghu, Ruksha, Guru, Snigdha</i>	<i>Anushna- Sita</i>	<i>Madhura/ Katu</i>	<i>Tridosahara</i>

CONCLUSION

On the basis of above dimensions we can say that all the drugs, which are, mentioned a base is having hepatoprotective effects. The above mentioned drugs have the following Ayurvedic properties: *Pittahara*, *Pitta Recana*, *Yakriduttejaka*, *Dipana*, *Recana*, *Shothahara*, *Jvarahara*, *Kamala-hara*, *Pandu-hara*, *Kapha-*

Pitta Shamaka, *Tridosahara*, *Rasayana*, *Kshayaghna*²¹⁻²⁷.

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