SYNONYMS BASED ON DISEASE IN RAJA NIGHANTU

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ABSTRACT

Raja nighantu is one of the noted lexicon in Dravyaguna. The name Raja nighantu itself reveals that it is the king of nighantus. Narahari pandita is the author of this nighantu who is the son of Iswara suri. There is controversy with regards to time period of Rajanighantu which ranges between 13th century to 17th century. It is also called as “Abhidana chudamani”, “Dravyabhdanagana sangraha”. He is the first author to place Dravyaguna ahead among Astangas of Ayurveda. In Raja nighantu, the concept of coining of synonyms for a particular drug was explained elaborately. He has given much importance for nomenclature of plants for which seven factors have been described as rudhi, swabhava, desha, lanchana, upama, virya, itarahwaya. He has described about the drugs in 23 vargas. He has given many synonyms than any other author to drugs based on different criteria like desa, swabhava etc. These synonyms are coined based on sound scientific principles which help us to gain good knowledge regarding the etymology, place of origin, the properties or nature of drug etc. when we study the synonyms of herbs one of the criteria we can find is disease based synonyms like sophagni for Punarnava, kustari for Arka etc. These synonyms give us specific idea about the usefulness of the herbs based on disease in the light of modern pharmacological and clinical research on different drugs.

Keywords: Dravyaguna, Ayurveda, Nighantu, Pharmacological Activity.

INTRODUCTION

Raja nighantu is one of the famous works in the field of Dravyaguna. The name itself reveals that it is the king of nighantus. Narahari pandita is the author of this nighantu who is the son of Iswara suri. There is no common opinion with regards to time period of Rajanighantu between Ayurvedic scholars and historians who placed the work between 13th century to 17th century. It is also called as “Abhidana chudamani”, “Dravyabhdanagana sangraha”. He is the first to place Dravyaguna ahead among Astangas of Ayurveda. In Raja nighantu, much importance has been given for nomenclature of plants for which seven factors have been described

1. Rudhi: Here the names have no specific meaning but are used traditionally in certain areas.
2. Swabhava: In this the names are given to herbs on the basis of their natural properties like usna, sita, laghu, guru etc.
3. Desha: Certain names are given according to the place of availability/local names.
4. Lanchana: Some herbs are named on the basis of the special morphological characters e.g., Chitratandula (Vidangula), RajiPhala (Patola), Koshataki etc.
5. Upama: Certain names are coined as per the similarity of useful part to other familiar objects or animals etc. e.g., Kuliravishana (Karkata Sringi), Panchangula (Eranda), Varahikanda etc.
6. Virya: Some names of the herbs will indicate the potency of the herbs e.g., Ushna (Maricha), Ooshana (Sunthi) etc.
7. Itarahwaya: Names prevalent in other regions or based on other factors. e.g., Indrayava, Analanama

Narahari has classified drugs based on karma or guna which 780 vegetable drugs are described in 10 vargas. The 23 vargas are as follows:

1. Anupadi
2. Dharanyadi
3. Guduchyadi: Mostly creepers are described
4. Shatahvadi: Small plants are described
5. Parpatadi: Small plants are described
6. Pippalyadi: Drugs which are spicy in nature are mentioned
7. Mulakadi: Mostly vegetables are described
8. Shalmalyadi: Plants which are thony, grasses are described.
9. Prabhadradi: Trees are described.
10. Karaviradi: Flowering plants are described.
11. Aamradi: Fruits are grouped in this chapter.
12. Chandanadi: All aromatics plants have been grouped in this chapter
13. Swarnadi: Metals and minerals have been discussed under this heading
14. Paniyadi: Water and other drava padarthas have been discussed

He has given many synonyms to the herbs based on different factors like desa, karma, virya, prabhava etc. One among the criteria is synonyms based on diseases. Here is the list of few synonyms which are coined based on the action of a herb on particular disease.

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Herb</th>
<th>Synonym</th>
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<tr>
<td>1.</td>
<td>Ajasrungi</td>
<td>Chaksusya</td>
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<td>Aragwada</td>
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<td>Kustari, kusthagna, kasamardan</td>
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<td>38.</td>
<td>Saliparni</td>
<td>Sophagni</td>
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DISCUSSION

The concept of coining of synonyms for a particular drug was explained first in Raja nighantu and this naming has sound scientific background. He is the first one who has given 7 basic guidelines for nomenclature. These synonyms which are named based on disease could have been coined with their clinical knowledge. But with the advances in the scientific world now we can revalidate our age old science. Here are the data which is being carried out round the world.

1. Bhallataka (Semecarpus anacardium):
   **Antimicrobial property:** Aqueous and organic solvent extracts of the plant S. anacardium were screened for antimicrobial (disc diffusion method) properties. The petroleum ether (PPE) and aqueous extract fractions (AQE) showed inhibitory activity against Staphylococcus aureus (10 mm) and Shigella flexneri (16 mm) at 100 mg/ml, respectively. While chloroform extract showed inhibition against Bacillus licheniformis, Vibrio cholerae and Pseudomonas aeruginosa. The ethanol extract showed inhibition to Pseudomonas aeruginosa and S. aureus

2. Hingu (Ferula asafoetida):
   **Antispasmodic:** The effects of Ferula asafoetida gum extract on the contractile responses of the isolated guinea-pig ileum induced by acetylcholine, histamine and KCl, and on the mean arterial blood pressure of rat were investigated. In the presence of extract (3 mg/ml), the average amplitude of spontaneous contractions of the isolated guinea-pig ileum was decreased to 54 +/- 7% of control. Exposure of the precontracted ileum by acetylcholine (10 microM) to Ferula asafoetida gum extract caused relaxation in a concentration-dependent manner

3. Kutaja (Holarrhena antidysenterica):
   **Antidysenteric:** The alkaloids from the ethanolic extract of H. antidysenterica seeds were evaluated for their antibacterial activity against clinical isolates of enteropathogenic Escherichia coli (EPEC) in vitro, and their antidiarrhoeal activity on castor oil-induced diarrhoea in rats, in vivo. In castor oil-induced diarrhoea, alkaloids reduced the diarrhoea with decrease in the number of wet faeces in pretreated rats at a dose of 200-800 mg/kg. The loss of plasmid DNA and suppression of high molecular weight proteins were observed on alkaloids treatment. Taking into account the multiple antibiotic resistance of EPEC, the results suggest usefulness of alkaloids of H.antidysenterica seeds as antibacterial and antidiarrhoeal agents

4. Vidanga (Embelia ribes):
   **Antimicrobial:** The ethanolic extract of the seeds of Embelia ribes was evaluated for its antimicrobial efficacy in vitro. Graded doses of the extract (10,50,100,200 g/mL) showed their chemopreventive potential, Asafoetida extract has shown the maximum inhibitory effect while cinnamon extracts showed minimum yet significant inhibitory action. Therefore, these spices might be used for natural healing of the tumor

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significant anthelmintic activity, with their sensitivity when compared with the standard. Ivermectin and levamisole were used as reference drugs.

**Antibacterial activity:** The antibacterial activity of aqueous and ethanolic extracts of this plant was determined by disc diffusion and broth dilution techniques against gram-positive bacterial strains (Bacillus subtilis, Staphylococcus aureus) and gram-negative bacterial strains (Escherichia coli, Pseudomonas aeruginosa). Results revealed that the aqueous and ethanol extracts of Embelia ribes exhibited significant antibacterial activity against gram-positive and gram-negative strains with minimum inhibitory concentration (MIC) ranging from 1.5 to 100 mg/ml. The most susceptible organism to the ethanolic extract was B. subtilis and P. aeruginosa. The presence of phytochemicals such as alkaloids, tannins, triterpenoids, steroids and glycosides in the extracts of this plant supports their traditional uses as medicinal plants for the treatment of various ailments.

**6. Vibhitaki (Terminalia bellarica):**

**Respiratory disorders:** In an open clinical trial of 93 patients suffering from various respiratory conditions Vibhitaki was found to have anti-asthmatic, anti-spasmodic, expectorant and anti-tussive activities (Trivedi et al 1979). Bronchoconstriction was induced with carbachol (CCh 1M/kg), which was reversed within 7–10 min. The test drug was given to the animals 5–8 min prior to administration of CCh. The responses were expressed as the per cent reduction of the CCh-induced bronchospasm.

**7. Yavani (Carum copticum):**

**Antispasmodic:** In a in vitro study showed the antispasmodic and broncho-dilating actions where the calcium channel blockade has been found to mediate the spasmytic effects of plant materials and it is being considered that this mechanism contributed to their observed result and supported the traditional use of Carum copticum in hyperactive disease states of the gut such as colic and diarrhea as well as in hypertension.

**8. Paribhadra (Erythrina indica):**

**Anthelmintic property:** Ethanol, chloroform and ethyl acetate extracts of leaves of Erythrina indica (EI) were studied for its anthelmintic property against Pheritima Posthuma. The activity was assessed by the determination of time of paralysis and time of death of earth worms. Piperazine citrate (10mg/kg) was included as standard. All the three extracts exhibited good anthelmintic activity.

**9. Pippali (Piper Longum):** Pippali extract was used for the evaluation of cognitive enhancing activity using elevated plus maze and passive avoidance task methods using Donepezil as standard by using the parameters of step down and transfer latency. Induction was carried out by Diazepam for 7 days. Alcohol solution extract showed significant effect when compared to control, their was significant increase in the step down latency and decrease in the time of death of earth worms. Piperazine citrate (10mg/kg) was included as standard. All the three extracts exhibited good anthelmintic activity.

**10. Aragwada (Cassia fistula):**

**Antipyretic activity:** In a study the methanol extract of buds of C. fistula for its antipyretic action on normal body temperature and yeast-induced pyrexia (fever) in rats was examined. The extract showed significant activity in both the models at doses of 200 and 400 mg/kg. At a dose level of 200 mg/kg, the extract caused significant lowering of normal body temperature up to 3 h. At 400 mg/kg dose, it caused significant lowering of body temperature up to 6 h after administration. In the model of yeast-provoked elevation of body temperature, the extract showed dose dependent lowering of body temperature up to 4 h at both the dosage levels. The results obtained are comparable to those for paracetamol, a standard antipyretic agent.

Kusta and kandu mentioned in Ayurvedic literature can be ascribed to different forms of bacterial and fungal infections which manifest in different forms of cutaneous infections. Different studies have proved its antibacterial and antifungal activity of Aragwada.

R. N. Yadav et al. (2003) isolated compound which showed antimicrobial activity against Staphylococcus aureus, Bacillus subtilis, Klebsiella pneumoniae, Escherichia coli, Aspergillus niger and Fusarium oxysporum.

M. A. Ali et al. (2004) reported that the antibacterial and antifungal activity of C. fistula and M. ferrea extracts was tested on 14 bacteria and 6 fungi. C. fistula extracts showed stronger antibacterial activity than M. ferrea.

**11. Guduchi (Tinospora cordifolia):**

**Antipyretic activity:** A study on Guduchi ghrita showed that the Guduchi ghrita formulation is having significant antipyretic activity.

In another study the water-soluble fraction of 95% ethanolic extract, hexane- and chloroform-soluble portions of T. cordifolia plant has shown significant antipyretic activity.

**12. Kasamarda (Cassia occidentalis):**

**Mast cell stabilizing activity:** In the present study anti-allergic activity of C. occidentalis whole plant ethanolic extract (CO) was investigated. Effects of CO on rat mast cell degranulation inhibition and human red blood cell (HRBC) membrane stabilization were studied in vitro following standard methods. Results of the present study indicated that CO inhibited mast cell degranulation, stabilized HRBC membrane thereby alleviating immediate hypersensitivity besides showing anti oxidant activity.

**13. Manjista (Rubia cordifolia):**

**Anti-pyretic activity:** Compound separated from the petroleum ether extract of Rubia cordifolia Linn. roots showed anti-pyretic activity in Brewer’s yeast saline induced hyperpyrexia in rats.

**14. Pippali (Piper longum):**

**Cognitive enhancing effect:** In a study by Wattanathom et al., 2008 administered piperine to Wister male rats, at various doses ranging from 5, 10 and 20 mg/kg/day, body 1kg, (p.o.) for 4 weeks and the neuropharmacological activity (elevated plus maze, spontaneous locomotor behavior, forced swimming test, cognitive function) was determined after single,1,2,3, and 4 weeks of treatment. The results showed that piperine during entire dosage range possessed anti-depression like activity and cognitive enhancing effect during entire treatment duration.

**15. Puskaramoola (Inula recemosa):**

**Anti asthmatic activity:** In a study Petroleum ether (60b80), ethanol (95%), water extract of air dried roots of Inula...
racemosa obtained by successive extraction. Petroleum ether extract (PEEIR) at a dose of 4 mg/ml (55.41±3.04) and 10 mg/ml (48.87±1.36) exert significant antagonistic effect (p<0.05) on histamine induced (1.6µg/ml) contraction as compared to its ethanol and water extract. Crude extracts tested for direct antihistaminic activity in vitro using isolated goat tracheal chain preparation, dose relative (0.1-1.6µg/ml) contractile response of histamine using goat tracheal chain preparation demonstrates the sensitivity of histamine H1 receptors present and potentiates its utility for screening the direct antihistaminic action of different extracts under investigation for their claim in asthma treatment 19.

16. Punarnava (Boerhaavia diffusa):
Diuretic activity: The roots and leaves of Boerhaavia diffusa were used in ayurveda as a diuretic. Aqueous extract of Boerhaavia diffusa was administered to experimental rats orally at the doses of 300mg/kg, frusemide 10mg / kg was used as a standard. Normal saline 25ml / kg was used as a control in study. The diuretic effect of the extract was evaluated by measuring urine volume, sodium, potassium and chloride content by electrolyte analyzer. Urine volume was significantly (P < 0.0001) increased by aqueous extract in comparison to control group, excretion of Na, K & Cl was also significantly (P < 0.0001) increased. The diuretic effect of the extract was comparable to that of the reference standard. Aqueous extract of Boerhaavia diffusa produces a notable diuretic effect which appears to be comparable to that produced by reference diuretic frusemide. The study provides a quantitative basis for explaining the folkloric use of Boerhaavia diffusa 20.

17. Sallaki (Boswellia serrata):
Anti-atherosclerotic activity: It has also been reported that aqueous and hydroalcoholic extracts of BS gum resin exhibits anti-thrombotic, anti-oxidant, anti-platelet and anti-coagulant activities which are beneficial in the prevention of thrombus formation and coronary atherosclerosis. An in-vivo and in vitro study on hypcholesterolemic activity revealed that water-soluble fraction of the oleo-gum-resin of BS extract inhibits the lipopolysaccharide-induced nitric oxide (NO) production and an increase in serum HDL level in rat macrophages 21.

18. Patola (Trichosanthes dioica): Bhujiyal (1999) showed that polyherbal formulation containing T. dioica is useful in skin disorder. Fifty cases of various skin diseases were treated with decoction of a mixture of Trichosanthes & other herbal crude drugs in a dose of 20ml to 40 ml empty stomach with hot water & honey for 4 to 6 weeks. The drug was found to be useful and no side effect was observed 22.
In a study fifty cases of various skin diseases were treated with Patoladi kvatha (decoction of a mixture of Trichosanthes dioica, Citrullus colocynthis, Gentiana kurroo, Terminalia chebula, Terminalia belerica, Emblica officinalis, Picrorhiza kurroa and Zingiber officinale) in a dose of 20 to 40 ml empty stomach with hot water and honey for 4 to 6 weeks. The drug was found to be useful in all the patients and no side effects were observed.
In another investigation a compound preparation, Panchakritkadi kashaya yoga (containing T.dioica as one of the constituents), was administered internally and Nalapamaradi taila applied externally in 80 patients of skin diseases. Patients showed good response. Patolatriphaladi yoga, a compound herbal preparation containing Patola as one the ingredients, was also found useful in skin diseases 23.

19. Shaliparni (Desmodium gangeticum):
Anti-inflammatory activity: Aqueous decoction (5, 10 and 20 mg/kg) of roots and aerial parts of D. gangeticum showed anti-inflammatory activity in-vivo in dose-dependent manner. The inhibition of swelling caused by carrageenan was equivalent to 14.58–51.02 % protection and in cotton pellet granuloma the protection was observed up to 14.43–38.67 %.
Juice of whole plant of D. gangeticum posses anti-rheumatic and anti-osteo arthritic activity via anti-inflammatory activity. The activity might be associated with several phytoconstituents like polyphenolics, pterocarpinoid (gangetin).
Gangetin, a pterocarpans, isolated from n-hexane extract of root of D. gangeticum showed significant anti-inflammatory activity in both exudative and proliferative phases of inflammation in rat model at dose of 50 and 100 mg/kg body weight 24.

CONCLUSION
This is a small attempt made to interpret the disease based synonyms of the herbs based on present scientific research data which provides scientific principles behind the nomenclature of herbs by our Acharyas. Though a lot of synonyms can’t be explained as of now but they provide new hints which will help for further research in new directions.

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