



## A SCIENTIFIC ANALYSIS ON SINGLE DRUG REMEDIES IN CHAKRADUTTA (A CONVENIENT AYURVEDIC TRANSCRIPT)

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### ABSTRACT

There is a need to renovate Ayurveda into a dynamic, scientifically validated and evidence based which takes its heritage from rich knowledge base of oral practice and scriptures. A vast majority of prescription drugs used in the world contain compounds that are directly or indirectly, via semi-synthesis, derived from plants. The World Health Organization estimates that 80 % of the world's population relies on traditional healing modalities and herbs. Chakradutta, the textbook of medicine, composed by Chakrapani Dutta, is the great source of such kind of healing modalities in Ayurveda. This book is one of the most reliable sources of clinical comprehension among Ayurvedic physicians throughout India. Numbers of single drug remedies are documented in this book. These are traditionally used by experienced and successful Ayurvedic physicians. In this study single herbal medication mentioned in Chakradutta, based on easily available medicinal plants are scientifically studied out. Botanical sources of the respective medicinal plants along with their indications and mode of uses are tabulated. Available scientific data regarding the particular therapeutic uses are analysed. The study also suggests that scientific screening of these documented medicinal plants should be done in order to justify the textual references.

**Keywords:** Chakradutta, Single drug, Herbal remedies, Ayurveda.

### INTRODUCTION

Ayurveda needs extensive reorientation to gain scientific reliability, as this traditional old system of medicine, if given the landscape, is hovering for an unexpected extension worldwide. Hence there is a need to transform Ayurveda into dynamic, scientifically validated and evidence based which takes its ancestry from rich knowledge base of oral tradition and scriptures<sup>1</sup>. On the other hand gradual increase demand of herbal medicine in global market along with scarcity of medicinal plant is becoming future challenge of plant based traditional system of medicine like Ayurveda. In these prospects here is the need for supplementary simple and cost effective medicament based on single drug. Numerous such kind of single drug therapies are mentioned in Ayurvedic classical texts and also traditionally practiced by many Ayurvedic physicians successfully in various disease conditions. In this study some treatment therapy mentioned in Chakradutta, based on easily available medicinal plants are enlisted. The textbook on medicine composed by Chakrapani Dutta, the renowned commentator on Charaka Samhita is entitled as 'Chikitsaasamgraha' commonly known as 'Chakradutta'<sup>2</sup>. Chakrapani Dutta belonged to Dutta family from Eastern part of India in the 11<sup>th</sup> century AD period. His father Narayana Dutta was the person in charge of King's kitchen with the status of a minister in the Kingdom of Gauda (Nayapala). Chakrapani Dutta has contributed many compendia in Ayurveda. Total eight works are recorded by the previous historians<sup>3</sup>. Among these works Chakradutta sets a historical landmark in development of medical principles and practices in India. Entire Chakradutta is composed of 4800 verses which are divided into 79 chapters. More than 50 sources have been acknowledged from where Chakrapani was inspired for these verses<sup>4</sup>. The uniqueness of Chakradutta is in the description of several metallic and mercurial preparations for the purpose of internal use as medications. Beyond that Chakrapani has recorded medicinal use of herbs growing in Bengal regions. He has mentioned number of new drugs for first time. These are used by experienced and

successful Ayurvedic physicians even today. Some drugs are already proved scientifically in the context of their respective therapies, but numerous more are yet to be revealed.

Textual resources have been used for this study. Simple and cost effective single drug remedies, revealed in Chakradutta are scientifically analysed. Focus has given on the remedies based on easily available, single medicinal plant and also simply applicable. Botanical source of each plants along with their therapeutic indication, mode of applications are tabulated (Table 1). Available scientific data based on internet and modern text books, regarding the particular therapeutic uses has discussed.

### DISCUSSION

From the present review it has observed that maximum numbers of these therapeutic indications are not scientifically validated till now. Although these remedies are successfully used by numerous Ayurvedic physicians, traditionally in different regions of country but only few of them are systematically proved. Drugs like Matulunga (Table 1. serial no-1), Kulathva (Table 1. serial no-2), Kakajngha (Table 1. serial no-3) having antipyretic property but efficacy of these drugs according to their mode of application yet to be explored. The antidiarrhoeal effect of Kutaja (Table 1. serial no-4) has already been documented<sup>5</sup>. The study reported that the alkaloids of *H. antidyserterica* (in graded doses) reduced diarrhoea in castor oil induced rats. Also Abbanat *et al* reported that the new antibacterial agents, Hongoquericins damage the membrane of *E. coli* imp strains, as the primary mode of their bactericidal action<sup>5</sup>. Ethanol extract of Vataviksha (*Ficus bengalensis* Linn.) (Table 1. serial no-5) has reported for anti-diarrhoeal activity against different experimental models of diarrhoea in rats<sup>6</sup>. The extracts showed significant inhibitory activity against castor oil induced diarrhoea and PGE<sub>2</sub> induced enter pooling in rats. These extracts also showed a significant reduction in gastrointestinal motility in charcoal meal tests in rats<sup>6</sup>.

Table 1: Simple and cost effective single drug remedies in Chakradutta

S. No.	Drugs Name	Indication	Mode of Application	Textual source
1.	Matulunga ( <i>Citrus medica</i> Linn.)	Tastelessness of mouth due to fever.	Fruit juice mixed with salt and black piper, orally	Jvara. Ci. Sloka-46
2.	Kulattha ( <i>Dolichos lablab</i> Linn.)	Excessive sweating in fever.	Powder with water, orally.	Jvara. Ci. Sloka-192
3.	Kakajangha [ <i>Peristrophe bicalyculata</i> (Retz). Nees]	Insomnia in fever	Root tied in head	Jvara. Ci. Sloka-194
4.	Indrayava [ <i>Holarrhena antidysenterica</i> (Linn). Wall.]	Acute abdominal pain in diarrhoea	Seeds powder 40 g with meat soup, orally	Atisara.Ci. Sloka-41
5.	Vatavriksha [ <i>Ficus bengalensis</i> Linn.]	Diarrhoea	Hanging root paste with rice water and taken with butter milk, orally.	Atisara.Ci. Sloka-53
6.	Tila [ <i>Sesamum indicum</i> Linn.]	Bleeding per rectum in dysentery	Paste mixed with 4 times sugar and goats milk	Atisara.Ci. Sloka-56
7.	Kosataki [ <i>Luffa echinata</i> Roxb.]	Piles	Fruits powder mixed with jaggery, locally	Arsha .Ci. Sloka-4
8.	Jyotsnika [ <i>Trychosanthes dioica</i> Roxb.]	Bleeding piles.	Root paste, locally	Arsha .Ci. Sloka-5
9.	Vidanga [ <i>Embelia ribes</i> Burm]	Worm infestation	Powder with mixed honey, orally	Krimi. Ci. Sloka- 3
10.	Palasha [ <i>Butea monosperma</i> (Linn). Kuntze]	Worm infestation	Seeds juice mixed with honey or paste with butter milk, orally.	Krimi. Ci. Sloka- 6
11.	Amalaki [ <i>Embllica officinalis</i> Gaertn]	Epistaxis	Powder of fruits mixed with ghee, locally.	Raktapitta. Ci.Sloka-37
12.	Vasa [ <i>Adhatoda vasica</i> Nees.]	Cough with bleeding.	Juice of Leaves mixed with honey, orally.	Kasa.Ci. Sloka- 28
13.	Adraka [ <i>Zingiber officinale</i> Roxb.]	Dyspnoea, Cough, Coryza.	Juice mixed with honey, orally.	Kasa.Ci. Sloka- 21
14.	Kantakari [ <i>Solanum surattense</i> Burm.f.]	All type of cough	Decoction mixed with <i>Piper longum</i> powder, Orally.	Kasa.Ci. Sloka- 27
15.	Matulunga [ <i>Citrus medica</i> Linn.]	Hiccough	Juice mixed with rock salt, orally.	Hikka,Swasa. Ci.Sloka- 6
16.	Badari [ <i>Ziziphus jujuba</i> Linn.]	Hoarseness of voice	Powder fried in ghee, with rock salt, orally.	Swarabheda. Ci.Sloka- 8
17.	Haritaki [ <i>Terminalia chebula</i> Retz.]	Vomiting	Powder mixed with honey, orally.	Chardi.Ci. Sloka- 9
18.	Parpataka [ <i>Fumaria vaillantii</i> Loisel] confirm	Vomiting	Decoction mixed with honey, orally.	Chardi.Ci. Sloka-11
19.	Duralabha [ <i>Fagonia cretica</i> Linn.]	Vertigo	Decoction mixed with ghee, orally.	Murcha.Ci. Sloka-8
20.	Vacha [ <i>Acorus calamus</i> Linn.]	Epilepsy	Powder mixed with honey, orally.	Apasmara. Ci.Sloka-
21.	Munditika [ <i>Sphaeranthus indicus</i> Linn.]	Inflammatory arthritis.	Powder mixed with honey, orally.	Vatarakta. Ci.Sloka-5
22.	Amalaki [ <i>Embllica officinalis</i> Gaertn.]	Colic pain.	Powder mixed with honey, orally.	Shula.Ci. Sloka- 34
23.	Ela [ <i>Elettaria cardamomum</i> Maton]	Dysuria	Fine powder mixed with banana juice.	Mutrkrichha. Ci.Sloka-11
24.	Atibala [ <i>Abutilon indicum</i> Linn.]	All sorts dysuria	Decoction of root, orally.	Mutrkrichha. Ci.Sloka- 24
25.	Erbaru [ <i>Cucumis sativus</i> Linn.]	Retention of urine	Paste of seeds 10 g mixed with rock salt and sour gruel, orally.	Mutraghata. Ci.Sloka- 2
26.	Shigru [ <i>Moringa oleifera</i> Lam.]	Urinary calculus	Decoction of root, orally.	Ashmari. Ci.Sloka-25
27.	Haridra [ <i>Curcuma longa</i> Linn.]	Diabetes	With juice of goose berry mixed with honey, orally.	Prameha. Ci.Sloka-17
28.	Sthala padma [ <i>Alocasia indica</i> Linn.]	Splenomegaly and oedema.	Paste mixed with milk, orally.	PleehaYakrita Ci.Sloka-.19
29.	Upodika [ <i>Basella alba</i> Linn.]	Tumour	washing with the juice and warping with the leaves	GranthiArbuda. Ci. Sloka-57
30.	Rupika [ <i>Calotropis procera</i> (Ait) R.Br.	Filaria	Root bark mixed with sour gruel, locally.	Slipada.Ci Sloka-3
31.	Putikaranja [ <i>Holoptelea integrifolia</i> Planch.]	Filaria	Leaf juice with mustered oil, orally.	Slipada.Ci Sloka-10
32.	Shigru [ <i>Moringa oleifera</i> Lam.]	Abscess	Root decoction with hingu and rock salt, orally	Vidradi. Ci. Sloka-14
33.	Sakhotaka [ <i>Streblus asper</i> Lour.]	Inflammation	Bark paste mixed with sour gruel, locally.	Vranasotha. Ci.Sloka-4
34.	Musta [ <i>Cyperus rotundus</i> Linn.]	Exogenous wound	Rhizome powder mixed with ghee, locally.	Vranasotha. Ci.Sloka-53
35.	Apamarga [ <i>Achyranthes aspera</i> Linn.]	Bleeding from wounds	Leaves juice, locally	Vranasotha. Ci.Sloka-54
36.	Karpura [Cinnamomum camphora Nees and Ebar.]	Wound healing and pain.	Camphor with ghee locally.	Vranasotha. Ci.Sloka-55
37.	Betel [ <i>Piper betle</i> Linn.]	Soft cancre	Betel nut Paste, locally.	Upadamsa. Ci.Sloka-11
38.	Rice [ <i>Oryza sativa</i> Linn.]	Cracking heal	Rice decomposed in coconut water, locally.	Kustha.Ci. Sloka-41
39.	Durva [ <i>Cynodon dactylon</i> Pers.]	Scabies, Ringworm.	Paste mixed with curcuma, locally.	Kustha.Ci. Sloka-6
40.	Agnimantha [ <i>Premna mucronata</i> Roxb.]	Urticaria, Skin disorder.	Root pounded with ghee, orally.	Kustha.Ci. Sloka-7
41.	Bakula [ <i>Mimusops elengi</i> Linn.]	Moving teeth	Decoction of bark, gurgle.	Kshudraroga.Ci.Sloka-16
42.	Cincha [ <i>Tamarindus indica</i> Linn.]	Pratishyaya (Acute rhinitis)	Soup of leaves, orally.	Nasaroga.Ci. Sloka-22

Abbreviation: Ci - Chikitsa (Chapter of particular disease management)

It denotes the mode of action of both Kutaja and Vata is different and should be applied depending upon cause and pathogenesis (Nidana, samprapti) of the disease. Relatively unexplored plant like Upadika (Table 1. serial no-29) has mentioned for tumour. Recent study also proved that efficacy<sup>7</sup>. The methanolic extract of Upadika (*Basella alba*) showed the significant growth inhibition on human cancer cell lines and momentous zone of inhibition for microorganisms studied<sup>7</sup>. Use of Arka (*Calotropis procera*) paste with Kanji has advised for Filariasis (Table 1. serial no-30). Recent study showed the extracts of Arka possess good larvicidal activity<sup>8</sup>. But efficacy of the drug should be evaluated with Kanji. Karpura mixed with ghee has mentioned as a wound healing agent (Table 1. serial no-36). Recent study documented, Camphor is likely safe for most adults when applied to the skin in a cream or lotion in low concentrations but shouldn't use undiluted camphor products or products containing more than 11 % camphor. These can be irritating and unsafe<sup>9</sup>. Hence it should be applied in the wound mixed with ghee. That indicates that the mode of application mentioned in classical text should be strictly followed regarding each respective therapeutic application.

### CONCLUSION

Simple and cost effective single drug remedies mentioned in Chakradutta is inimitable. The review has focused on easily available and easily applicable remedies. Maximum numbers of these therapeutic indications are yet to be explored scientifically. Drugs are already proved should be tested

according to their particular mode of applications or with respective adjuvant described in the text. Traditional practitioner should concentrate more seriously on such kind of therapy as it can be a solution for saving numerous endangered medicinal plants at present state of affairs.

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