

Pharmacodynamic Synergy of Tablet Yoga 2 Vati in the Management of Essential Hypertension

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Abstract

Essential Hypertension (EH) is a global lifestyle disorder characterised by sustained elevation of systemic arterial blood pressure. In Ayurvedic physiology, EH is understood as a *Tridoshaj Vyadhi* with predominant involvement of *Vyana Vayu* (responsible for circulation) and *Pitta Dushti* (affecting blood/Rakta tissue and vascular tone). Conventional antihypertensive medications often necessitate multi-drug regimens and long-term dependency. **Yoga 2 Vati**, a multi-herbal formulation containing 14 classical Ayurvedic ingredients, offers a multi-targeted therapeutic approach.

To analyze the pharmacodynamic synergy, *Rasa-Panchaka* profile, and *Dosha-Karma* mechanisms of the 14 ingredients in Yoga 2 Vati in regulating arterial pressure, vascular resistance, and autonomic balance.

The phytopharmacological profiles of the 14 raw drugs of Yoga 2 Vati—*Dashamoola*, *Rasna*, *Devadaru*, *Punarnava*, *Guduchi*, *Amalaki*,

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Haritaki, Kamala, Pushkarmoola, Shunthi, Maricha, Pippali, Chitraka, and Vacha—were reviewed from Ayurvedic classics (*Charaka Samhita, Rasatantrasara*) and contemporary pharmacological literature.

The formulation exhibits a balanced combination of *Madhura, Tikta, Kashaya*, and *Katu Rasa* paired with *Ushna* and *Sheeta Veerya* drugs. *Dashamoola, Rasna*, and *Devadaru* normalize *Vyana Vayu*; *Punarnava, Amalaki*, and *Kamala* clear *Pitta-Rakta Dushti* and promote diuresis; while *Trikatu (Shunthi, Maricha, Pippali)*, *Chitraka*, and *Vacha* clear *Srotorodha* (vascular obstruction) via their *Deepana-Pachana* actions.

Yoga 2 Vati acts through a synergistic, multi-systemic pathway—combining vasodilatory, cardioprotective and neuro-calming properties to address the root pathophysiology of essential hypertension.

Key words : Essential Hypertension, Yoga 2 Vati, Vyana Vayu, Pitta Dushti, Raktachapadhikya, Ayurvedic Pharmacodynamics.

Essential Hypertension (EH) affects over 1.2 billion adults globally and accounts for a significant proportion of stroke and coronary heart disease mortality in India.¹ While modern pharmacotherapy targets specific physiological axes (ACE inhibitors, beta-blockers, diuretics), over two-thirds of hypertensive patients require multiple drugs to achieve pressure targets.

In Ayurvedic classics, there is no reference for essential hypertension. The diagnosis is totally based on signs and symptoms of the disease elucidated by the physician, hence, from time to time various correlation has been made by recent authors and different names have been suggested for hypertension like co-relating it to Pittavruta udana, Raktagata vata, Pittavruta vata, Raktavruta vata, Vyan vayu vaishamyata. Raktachapadhikya is the coined term which translates itself to as increase in the blood pressure.⁷ Though there

have been different opinions by different scholars, no one has denied the fact of essential hypertension of being psychosomatic in nature and Vata pradhana tridoshaja vyadhi. The ill-effects of faulty regimens like deviating from Dinacharaya, Ritucharya etc, influence the Rajadosha in Manas, thus directly bringing out the Dosha vitiation in the Shareera so as it leads to an ailment which directly predisposes hypertension.³

Tablet Yoga 2 is a polyherbal formulation composed of 14 synergistic herbs designed to target these interconnected physiological pathways.

All the raw drugs are purchased from Swastik Enterprise Vadodara, Gujarat. (D.L N020B-GJ-VAD-143772) Authentication of Raw drug material is done by the Department of Dravyaguna, Parul Institute of Ayurved. (PU/PIA/DG/b-0/252). Tablet Yoga 2 has prepared at GMP certify Pharmacy, Parul

Institute of Ayurved and Research. Total 6 Kg of drug had prepared with Standarded SOP of tablet formation.

Preparation of Tablet Yoga 2 : The authenticated raw herbal ingredients (mention in Table-1) were cleaned, dried where necessary and pulverized into an ultra – fine powder (passed through Sieve No 80) Churna . Media Preparation (Kwatha) – Standarded decoctions (kwatha) of Amalaki, Tulasi and Guduchi, were prepared individually using classical Ayurvedic decoction protocols to serve as the liquid media for potencies. Levigation (Bhavana) : The blended churna was sub ulverization (Churna Preparation): The authenticated raw herbal ingredients (Items 1 to 14)were meticulously cleaned, dried where necessary, and pulverized into an ultra-fine powder (passed through Sieve No. 80). (churna). Media Preparation (Kwatha): Standard decoctions (kwatha) of Amalaki,

Tulasi, and Guduchi were prepared individually using classical Ayurvedic decoction protocols to serve as the liquid media for the potencies.⁴ Levigation (Bhavana): The blended churna was subjected to three successive cycles of bhavana (wet trituration) with the prepared kwathas. Binding Agent Integration: Concurrently, a quantified amount of natural cashew gum was dissolved in distilled water, heated, and stirred consistently until completely dissolved. This binder solution was added directly to the powder mixture during the bhavana stage, with continuous blending until a perfectly homogeneous, cohesive mass was achieved. Granulation and Compression: the cohesive wet mass is passed through a granulator, dried in a hot air tray dryer at 40°C–50°C to a moisture content below 5%, and compressed into standardized tablets. Final Tablet Yoga 2 (wt- 525 mg) is prepared . Final Product is stored in air tight container.

Rasa-Panchaka Analysis of Tablet Yoga 2 Ingredients :

The 14 ingredients of Yoga 2 Vati work together through distinct pharmacodynamic properties (*Rasa, Guna, Veerya, and Vipaka*):

Table-1.

Herbal	Botanical name part used	Rasa	Guna	Veerya	Vipaka	Primary Pharmacodynamic Action in EH
1. Dashamoola	Rhizomes	Madhura	Guru	Ushna	Katu	Pacifies <i>Vyana Vayu</i> ; relaxes vascular smooth muscle.
2. Rasna	<i>Pluchea lanceolata</i> (DC) Clarke (Leaves)	Tikta	Guru	Ushna	Katu	Anti-inflammatory; pacifies <i>Amavata</i> & vascular resistance.
3. Devadaru	<i>Cedrus deodara</i> (Roxb.) G.Don (Bark)	Tikta	Laghu, Ruksha	Ushna	Katu	<i>Vata-Kapha hara</i> ; relieves neural and arterial tension.

4. Punarnava	<i>Boerhavia diffusa</i> L. (Rhizomes)	Katu, Kashaya	Deepana	Sheeta	Katu	Diuretic; reduces plasma volume and fluid overload.
5. Guduchi	<i>Tinospora cordifolia</i> (Thunb.) Miers (Bark)	Katu, Tikta	Laghu	Ushna	Madhura	<i>Tridoshaghna</i> ; cardioprotective, lipid-lowering.
6. Amalaki	<i>Phyllanthus emblica</i> L. (Fruit)	Amla-pradhana	Ruksha	Sheeta	Madhura	Powerful antioxidant; pacifies <i>Pitta</i> and strengthens endothelium.
7. Haritaki	<i>Terminalia chebula</i> Retz. (Fruit)	Pancharasa	Laghu	Ushna	Madhura	<i>Anulomana</i> (bowel regulation); reduces autonomic sympathetic stress.
8. Kamala	<i>Nelumbo nucifera</i> Gaertn (Embryo)	Madhura	Ruksha, Sheetata	Sheeta	Madhura	<i>Pitta-hara</i> ; mild sedative action on central nervous system (<i>Hridaya</i>).
9. Pushkarmoola	<i>Inula racemosa</i> Hook. f (Root)	Katu, Tikta	Ushna, Laghu	Ushna	Katu	Specific <i>Hridaya</i> (cardioprotective); acts as a natural calcium-channel blocker.
10. Shunthi	<i>Zingiber officinale</i> Roscoe (Root)	Katu	Ushna, Bhedana	Ushna	Madhura	Clears <i>AMA</i> ; anti-platelet and mild arterial vasodilator.
11. Maricha	<i>Piper nigrum</i> L. (Fruit)	Katu	Laghu, Tikshna	Ushna	Katu	Enhances bioavailability; reduces vascular <i>Kaphaja</i> blockage.
12. Pippali	<i>Piper longum</i> (Root/Fruit) L.	Katu	Laghu, Snigdha	Ushna	Madhura	<i>Rasayana</i> ; rejuvenates microvascular tissue.
13. Chitraka	<i>Plumbago zeylanica</i> L. (Root)	Katu	Laghu	Ushna	Katu	Strong <i>Deepana-Pachana</i> ; mobilizes visceral fat/lipids.
14. Vacha	<i>Acorus calamus</i> L. (Rhizome)	Katu, Tikta	Laghu, Tikshna	Ushna	Katu	<i>Medhya</i> ; relieves mental stress, headache (<i>Shirshoola</i>), and anxiety.

Mode of Action and Categorisation of Tablet Yoga 2 :

Tablet Yoga 2 works through a multi-targeted Ayurvedic therapeutic approach aimed at achieving a reduction in blood pressure by addressing three core physiological pathways:

1. ***Vata Samana (Autonomic & Vascular Regulation):*** Formulated with *Dashamoola*, *Devadaru*, *Rasna*, and *Haritaki*, this group acts to normalize *Vyana Vayu* and balance autonomic nervous system tone, facilitating vascular smooth muscle relaxation and reducing arterial resistance.²
2. ***Pitta Shamana (Cooling & Volume Control):*** Incorporating *Amalaki*, *Kamala*, *Punarnava*, and *Guduchi*, this category pacifies elevated *Pitta* and *Rakta* (blood tissue).⁶ It exhibits diuretic properties that effectively reduce fluid overload and plasma volume, relieving hypertension driven by fluid retention.
3. ***Sroto-Shodhana (Microvascular & Metabolic Clearance):*** Utilizing *Trikatu* (*Shunthi*, *Maricha*, *Pippali*), *Chitraka*, *Pushkarmoola*, and *Vacha*, this set clears microvascular channel blockages (*srotorodha*)⁴ and mobilizes excess lipids and metabolic wastes (*ama*), improving arterial elasticity and tissue perfusion.

Clinical Significance & Symptom Correlation:

Beyond controlling objective blood pressure measurements (Systolic, Diastolic,

and Mean Arterial Pressure), Tablet Yoga 2 directly addresses key clinical symptoms of essential hypertension:

1. ***Shirshoola (Hypertensive Headache) :*** Relieved by the neuro-soothing and *Vata-pacifying* properties of *Vacha* and *Devadaru*.
2. ***Bhrama (Dizziness/Giddiness):*** Ameliorated by *Pitta-cooling* herbs like *Amalaki* and *Kamala*.
3. ***Hridaydrava (Palpitations):*** Controlled by *Hridya* cardioprotective agents like *Pushkarmoola* and *Guduchi*.
4. ***Shwasa (Exertional Dyspnea):*** Reduced by *Punarnava* (reducing fluid overload) and *Dashamoola*.

Tablet Yoga 2 represents a balanced polyherbal formulation engineered to address the multi-factorial nature of essential hypertension. By harmonizing *Vyana Vayu*, reducing *Pitta Dushti*, and clearing *Srotorodha*, it acts as a comprehensive, multi-targeted natural antihypertensive. This conceptual framework provides a strong pharmacological rationale for ongoing clinical trials evaluating Yoga 2 Vati as both a standalone therapy and an adjuvant to standard antihypertensive care.

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