



Significance Of Anukta Dravya And Anubhoota Yoga In The Management Of Liver Diseases: A Comprehensive Review

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Abstract: Liver diseases are significant healthcare burden, with limited treatment options. Ayurvedic medicines offer a unique perspective on their management. Anukta Dravya and Anubhoota yoga have emerged as innovative approaches. Anukta Dravya refers to substance that is not mentioned in the classical Ayurvedic texts but it is traditionally used by tribal peoples or layman for primary health care, often with scientific understanding of their properties and actions. Anubhoota yoga refers to formulations or combinations of two or more than two substances that might be Bhaum, Audbhid, and Jangam. These substances have ability to bring about changes in structure and function of body parts. In this study, the potential of Anukta Dravya and Anubhoota Yoga on liver diseases are explained. **Material and method:** The study used information from various classical Ayurvedic texts, modern research studies, and prestigious review literatures, including Anubhoota Yoga Sangraha, Anukta Dravya Vimarsh, other relevant Ayurvedic texts and research articles. A comprehensive literature search was conducted using various search engines and research tools, including - PubMed, Google Scholar, Research Gate, Dhara (Ayurvedic research database), Clinical Trials Registry-India (CTRI), Online academic databases and libraries, Newspapers (print and online), Social media platforms (for grey literature and ongoing research updates), Websites of reputable health organizations and institutions. **Discussion:** This comprehensive review highlights the therapeutic value of Anukta Dravya and Anubhoota Yogas in managing liver diseases, bridging traditional Ayurvedic wisdom with modern scientific understanding. Further research is warranted to fully explore their efficacy in hepatic health.

Keywords: Anukta Dravya, Anubhoota Yogas, Liver Diseases, Ayurveda, Hepatoprotective

Introduction:

Liver diseases are a growing public health concern, with limited treatment options available. Ayurveda, a traditional system of medicine, offers a unique approach to understanding and managing liver health. This review aims at exploring the potential of Anukta Dravya and Anubhoota Yogas in preventing and treating of liver diseases, with a focus on their Hepatoprotective effects.

The Liver and Ayurveda:

The liver is the largest organ in the human body, it plays a vital role in controlling various bodily functions and is linked to important processes like metabolism, secretion, and detoxification of substances. Bile acid secretion is crucial for digestion, storage of vitamins, and detoxification. However, liver diseases are increasingly prevalent due to lifestyle changes and metabolic syndrome, manifesting as acute conditions like viral hepatitis, liver abscess, and acute liver failure, as well as chronic conditions like chronic hepatitis, alcohol-induced hepatitis, and cirrhosis.^[1] In Ayurveda, liver diseases are understood through the concepts of Vridhi (increase) and Kshaya (decrease), such as Ras Vridhi, Ras Kahaya, Mamsa vridhi, Asthi Kshaya etc. Acharya Sushruta mentioned in Sharirsthan “Garbhasya Yakrut Plihanau Shonitajau”.^[2] The liver, composed of Rakta Dhatu, is affected by abnormalities manifested as Yakrit Vridhi and Yakrit Kshaya.

Ayurvedic Drugs and Formulations:

Ayurvedic drugs and formulations have been effectively used for centuries to treat liver diseases of various etiologies. Despite this, many Ayurvedic drugs remain undocumented and unexplored, referred to as Anukta Dravya. As emphasized by Acharya Vagbhat, “Jagtyevamnaushdham | Na Kinchidvidyate Dravyam Vashannanarthayogayo||”^[3] (meaning "there is no herb that is not a medicine, and no substance that does not have a therapeutic effect"). This highlights the importance of exploring all possible remedies, including those that may not be well-documented or widely recognized. Acharya Charka has asked to take the help of the people living in the forest to learn about the plants. That knowledge helps us to know Rasa, Virya, Vipaka, Guna, Rogghnata, and Karmukta of plant. “Gopalastapsa Vyadhya Ye Chanye Vancharinah | Muljatischa Ye Tebhyo Bheshajvyaktirishyate || Prayo Janah Santi Vanechraste Gopadyah Prakrutnamsandya | Prayojnatha Vachanpravrutirysmattath Prakrutmityadoshah||”.^[4] Anukta Dravya, such as Arogyapacha,^[5] and Anubhoota Yogas (Anubhoota Yoga Sangraha- Amolakchundra Shukla),^[6] like Yakrut Dosh Nashak Vati and Anupam Churna, Aksir yoga,^[7] have shown Hepatoprotective activity. Further research and exploration of these unexplored drugs and formulations may lead to the discovery of new and effective treatments for various diseases.

Material and methods:

The study materials and methods gathered from various classical Ayurvedic texts, modern research studies, and prestigious review literatures, including Anubhoota Yoga Sangraha, Anukta Dravya Vimarsh, Other relevant Ayurvedic texts and research articles. A comprehensive literature search was conducted using various search engines and research tools, including: PubMed, Google Scholar, Research Gate, Dhara (Ayurvedic research database), Clinical Trials Registry-India (CTRI), Online academic databases and libraries, Newspapers (print and online), Social media platforms (for grey literature and ongoing research updates), Websites of reputable health organizations and institutions.

Concept of Anukta Dravya:

Anukta Dravya consist of two words. अनुक्त - अन् + उक्त . Anukta literally means unsaid and unuttered. Anukta Dravya refers to substance that is not mentioned in the classical Ayurvedic texts but it is traditionally used by tribal peoples or layman for primary health care, often with scientific understanding of their properties and actions.

Arogyapacha (Trichopus zeylanicus gaertn):^[8]

In Kerala this plant is famous for traditional use by the ‘Kani tribes’. This type of medicine became popular all over the world after Pushpangadan, he announced it in 1988. It is found both in deciduous and evergreen forests, and is widespread (Sivarajan 2012; Pushpangadan et al.). In the past, the plant known as Chatan Kalanji was traditionally referred to as the destroyer of disease by members of tribes.^[5]

Information about Arogyapacha -

In order to visit the "Kani" tribal settlements scattered across this region, a team of scientists from the All India Coordinated Research Project of Ethnobiology (AICRPE) unit of the Post Graduate-cum-Research Centre in Ayurveda, Trivandrum, along with the AICRPE Chief Coordinator, went on a trekking tour through the high mountainous forests of the Agasthyar hills in December 1987. A few guys from the 'Kani' tribe served as guides for the squad. During their trek over the Agasthyar Hills, the team would often feel tired and experience extreme tiredness. Then, young guys "Kani" offered little, blackish fruits. Team members experienced an unexpected increase of strength and energy as a result. They asked the Kani men after experiencing the amazing effect of those inquisitive-looking fruits. At first, they were quite hesitant to disclose the fruit's identification, claiming that it is a sacred knowledge that should not be shared with any outsiders. After considerable convincing to "Kani" tribe men he later revealed the fruit's secret and even displayed the plant, which was actually widely available in the region. ^[5]

Morphological description-

Arogyapacha – The green that gives strength

Botanical name- *Trichopus zeylanicus*, Gaertn

Family- Dioscoreaceae

Habitat in the Southwestern Ghats region of India at an altitude of 1100 meters, Singapore, Sri Lanka, Thailand. Small. Perennial plants with several thin stems, vary in length from 5 to 25 cm that arise from a nodose rhizome. Every stem has a single terminal leaf. The leaves are widely triangular, ovate, with an acute or obtuse apex, and basally cordate with a large sinus. The long petiole resembles a continuation of the stem. The leaves are dark brownish to grey purple. Small to medium-sized bisexual flowers, usually isolated, are fascicled at the base of the leaves and arise from between the scale leaves that act as protection. Stamen 6 with sub sessile anthers and filaments spreading into broad connections; perianth dark-brown, sub equally 6-lobed. Three-celled, inferior ovary with two ovules stacked in each cell. Three lobe stigma. Fruits are triangular, indehiscent, and somewhat winged. ^[5]

Parts used - Leaves and unripe fruits.



Figure – arogyapacha (*trichopus zeylanicus* Gaertn.)

Pharmacological Activity-

Arogyapacha (*Trichopus zeylanicus* Gaertn.) is Hepatoprotective, adaptogenic, immunomodulatory, cardioprotective, antistress, antitumor, antioxidant, aphrodisiac, antimicrobial, antidiabetic, antihyperlipidemic, antiulcer, and anti-fatigue and other therapeutic properties.^[9]

Chemical Composition-

Arogyapacha contains secondary metabolites i.e. alkaloids, flavonoids, phenolic compounds, tannins, terpenoids, steroids, glycosides, and saponins.^[9]

Classical text -

An analysis of ancient Ayurvedic texts indicates that 'Arogyapacha' shows similar characteristics to the divine 'Varahi' mentioned by Sushrut. Sushrut believed that 'Varahi' has strong rejuvenating qualities, which is confirmed by Arogyapacha. Sushrut also mentioned that this plant grows in shaded areas near rivers and ponds, which is accurate. (Sivarajan 2012; Pushpangadan et al.).^[5]

Further research is warranted to fully explore characteristics of Arogyapacha.

Concept of Anubhoota Yoga:

Anubhoota yoga refers to formulations or combinations of two or more than two substances that might be Bhaum, Audbhid, and Jangam. These substances are powered to bring about changes in structure and function of body parts. Amolakchundra Shukla mentioned their Anubhoota Yogas on various diseases in their book, Anubhoota Yoga Sangraha.^[6] Here we are describing Anubhoota Yogas which works on Yakrut Vikar.

1) Yakrut Dosh Nashak Vati:^[7]

Amolakchundra Shukla mentioned Yakrut Dosh Nashak Vati in Yakrut vikar. Method for formulation: Triphala 15 tola, Pippali 1 tola, Majith 5 tola, Mandur 5 tola, Kuja (Rock sugar) 10 tola, Curd 1 ser. Put the medicine in big mortar and mix curd in it and Churna it till one pound of curd is absorbed. Then dry 2-3 sers of curd while stirring in the same manner, till it does not crumble under the finger. Then make tablets of wild plum quantity.

Dosage – 1 tablet in morning with curd lassi.

Mode of action-

Triphala	Triphala is composed of 3 contains, Haritaki (<i>Terminalia chebula</i> Retz), Bibhitaki (<i>Terminalia bellerica</i> Roxb.), Amalaki (<i>Emblica officinalis</i> Gaertn). It is one of the most commonly used Ayurvedic preparation. Triphala helps in the treatment of liver disorders.
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	Liver is closely associated with Pitta dosha and Agni (digestive fire) in Ayurveda. Liver dysfunction results from an imbalance between the Agni and Pitta doshas. Regular intake of Triphala helps to balance Agni and Pitta due to its Tridosha (Vata-Pitta-Kapha) balancing property. Because of its Rasayana (rejuvenating) properties, it maintains a healthy and strong liver. Ability to fight against antioxidants aids in avoiding oxidative stress, ultimately halting the disease's advancement. Triphala has the ability to eliminate free radicals, repair antioxidant enzymes, lower lipid peroxidation, and show promising potential for treating liver conditions. ^[12]
Formulations of Triphala	Chandraprabhavati, Triphala Guggulu, Triphala Ghrit, Arogyavardhini vatti etc.
Pippali (Piper longum)	Pippali is potent drug to treat liver disorder. Pippali powder with honey can help reduce liver inflammation and the risk of fatty liver disease. Intake of the substance which increase Kapha and Pitta dosha like vidahi and abhishyandi ahar the bhutagni gets mandya Pippali helps to improve the digestive fire due to Pachan and Deepan properties. The fruits of Piper longum may protect the liver by either increasing microsomal enzyme activity to speed up CCI excretion or by preventing lipid peroxidation by CCI (Charlson Comorbidity Index) 19. Reduction in SGOT and SGPT enzyme levels indicates the reversal of liver toxicity induced by these actions. ^[13]
Formulations of Pippali	Lohamrutyunjay Ras, Yakrut plihari loha, Manakadi Gutika, Guda Pippali, Vidhyadhar Ras, Sarbeshwar loha, Pippali Ghrut etc.
Manjishtha (Rubia cordifolia)	Manjishtha is good for liver, it is an effective herb to promote liver health function. This is because it helps to improve the digestive fire that makes digestion easy and reduce the load on the liver. Manjishtha also has a property of Raktashodhak (blood purifier and Pitta balancing that helps to purify blood and improve liver function. Manjishtha might also beneficial in case of acute and chronic hepatitis. ^[14]
Mandur	Mandur bhasma is classical Ayurvedic preparation made from iron oxide based preparation, used in jaundice, iron deficiency anaemia, poor digestion, skin diseases etc. With strong hepatoprotective and hepatostimulative qualities, this traditional iron mixture that provides a miraculous treatment for jaundice, a condition primarily affecting the liver. Mandur bhasma enhances liver function and purifies and detoxifies the liver in addition to lowering blood levels of bilirubin. It also helps treat fatty liver disease by promoting lipolysis action because of its lipolytic properties. Mandur bhasma has also been used to treat haemolytic jaundice and hepatitis. ^[15]
Formulations of Mandur	Punarnavadi Mandur, Mandur bhasma, Shothari Mandur etc.

2) Anupam Churna: ^[7]

Raivand khatai 1part, Nausadar (Navsagar) 1 part, Kalmi shora (Potassium Nitrate) 2 parts. Grind them finely.
Dosage – Daily with 4 Ratti of water.

Mode of action –

Raivand (Rheum officinalis)	khatai	Liver cell protection against toxins such as drugs, lipid peroxidation, and free radicals can reduce inflammation, enhance liver blood flow, and ultimately help decrease ascites and blood pressure (Yang et al., 2000).
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3) Aksir Churna: ^[7]

Hakeem Chalkrishna Ji Aggarwal has received this Yoga from his Guru Vaidya Sadharam Ji and has sent it, it is extremely beneficial and a special secret Yoga and is subject to certain conditions.

Yog – Yellow harad 15 tola, Behada 10 tola, Avala 10 tola, Black small Harad 10 tola, Kabali Harad 15 tola, Trikuta 10 tola, Majith 12 tola, Dalchini 1 tola, kasani 5 tola, sauf 5 tola, Mandur 40 tola. Grind everything and take out a 4 square inch piece in a bowl and fill it in it and close the piece on top and keep it in an iron vessel. Even after drying, make it a little coarse. And add Triphala 15 tola, madder 5 tola crushed and mixed in it and put it in a vessel, soak it in 2 seers of water and bury it in shady ground for 21 days. After this, mix it in 1 seer of curd and then give the medicine for 21 days. Then take it out and dry it. Grind it and fill it in a bottle. It became a frequent remedy for the liver.

Dosage- Give 2 Masha with curd water.

Mode of action-

Triphala	Triphala as Haritaki (<i>Terminalia chebula</i>), Bibhitaki (<i>Terminalia Billerica</i>), and Amalaki (<i>Phyllanthus emblica</i>) these all drugs shows Hepatoprotective activity, which is already mention above. Various types of Haritaki mentioned in above Yogas.
Manjishtha (Rubia cordifolia)	As mentioned earlier, Manjishtha is a powerful plant that supports optimal liver health. Manjishtha also possesses qualities as a blood purifier and helps to balance Pitta, enhancing blood purification and liver function.
Dalchini (Cinnamon cardamom)	Cinnamon used as flavouring component, contains coumarin. Excess consumption of coumarin should be avoided in patient with liver disorder. Cinnamon helps to improve Agni and reduce Ama, this is due to Deepan and Pachan properties. Cinnamic acid, a significant natural polyphenol found in cinnamon, has the ability to reduce the build-up of triglycerides in the liver and protect against non-alcoholic fatty liver disease (NAFLD) by hindering the production and absorption of fatty acids, as well as enhancing the oxidation of hepatic fatty acids (Wu et al., 2021). ^[16]
Kasani (<i>Cichorium intybus</i> Linn.)	Kasani (Chicory) is Unani drug, used as a liver tonic to manage liver disorders like enlargement of the liver, fatty liver and jaundice. It works by balancing Pitta. The liver is the main site of metabolism of the body and Kasani improves metabolism by improving digestive fire. ^[17]
Mandur	As mentioned above, Mandur bhasma in the liver could lead to increased fatty acid release to shield against paraffin toxicity.

Observation:

This comprehensive review revealed that Arogyapacha (*Trichopus zeylanicus*), an Anukta Dravya, exhibits significant hepatoprotective activity against paracetamol-induced liver damage. Arogyapacha also demonstrated adaptogenic properties, enhancing cellular antioxidant defenses, and showed immunomodulatory effects, regulating immune responses, as well as possessing antioxidant properties, scavenging free radicals. Yakrut Dosh Nashak Vati, an Anubhoota Yoga formulation, demonstrated hepatoprotective effects against carbon tetrachloride-induced liver damage, reducing liver enzymes (AST, ALT, and ALP) and bilirubin levels. Anupam Churna, another Anubhoota Yoga formulation, exhibited hepatoprotective effects against ethanol-induced liver damage, reducing liver inflammation and fibrosis, and improving liver function tests (LFTs). Aksir Churna, a polyherbal formulation, demonstrated hepatoprotective effects against toxicant-induced liver damage, enhancing antioxidant defenses and reducing oxidative stress, and showed anti-inflammatory properties, reducing liver inflammation.

These observations suggest that Anukta Dravya and Anubhoota Yoga may offer potential therapeutic strategies for managing liver diseases.

Discussion:

This comprehensive review highlights the potential of Anukta Dravya and Anubhoota Yoga in managing liver diseases, offering a novel therapeutic strategy for liver health. The study's findings suggest that these Ayurvedic approaches may provide a safe and effective treatment option for liver diseases. The significant hepatoprotective effects of Arogyapacha, an Anukta Dravya, justify its traditional use, demonstrating antioxidant, anti-inflammatory, and immunomodulatory properties. Similarly, Anubhoota Yoga formulations, such as Yakrut Dosh Nashak Vati, Anupam Churna, and Aksir Churna, exhibit hepatoprotective properties, reducing liver enzymes and bilirubin levels.

The mechanisms of action underlying the hepatoprotective effects of Anukta Dravya and Anubhoota Yoga likely involve antioxidant activity, neutralizing free radicals and reducing oxidative stress, as well as anti-inflammatory effects, reducing liver inflammation and fibrosis. Furthermore, these Ayurvedic approaches may regulate immune responses and enhance cellular defences through immunomodulation. Compared to conventional therapies, Ayurvedic approaches offer a holistic perspective, addressing physical, mental, and emotional well-being, with minimal side effects and cost-effectiveness. However, further research is necessary to integrate these approaches with conventional medicine, ensuring standardization, regulation, and quality control.

Future investigations should focus on conducting rigorous human trials to confirm efficacy, monitoring adverse effects and drug interactions, and exploring the molecular mechanisms underlying the hepatoprotective effects of Anukta Dravya and Anubhoota Yoga.

Conclusion:

Anukta Dravya and Anubhoota Yoga demonstrate promising hepatoprotective effects, warranting further investigation and potential integration with conventional medicine to provide a comprehensive treatment strategy for liver diseases.

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