

धनुष्प्रतशंगा

e-magazine by AYUSH Department, Uttarakhand Govt



आयुष एवं आयुष शिक्षा विभाग
उत्तराखण्ड

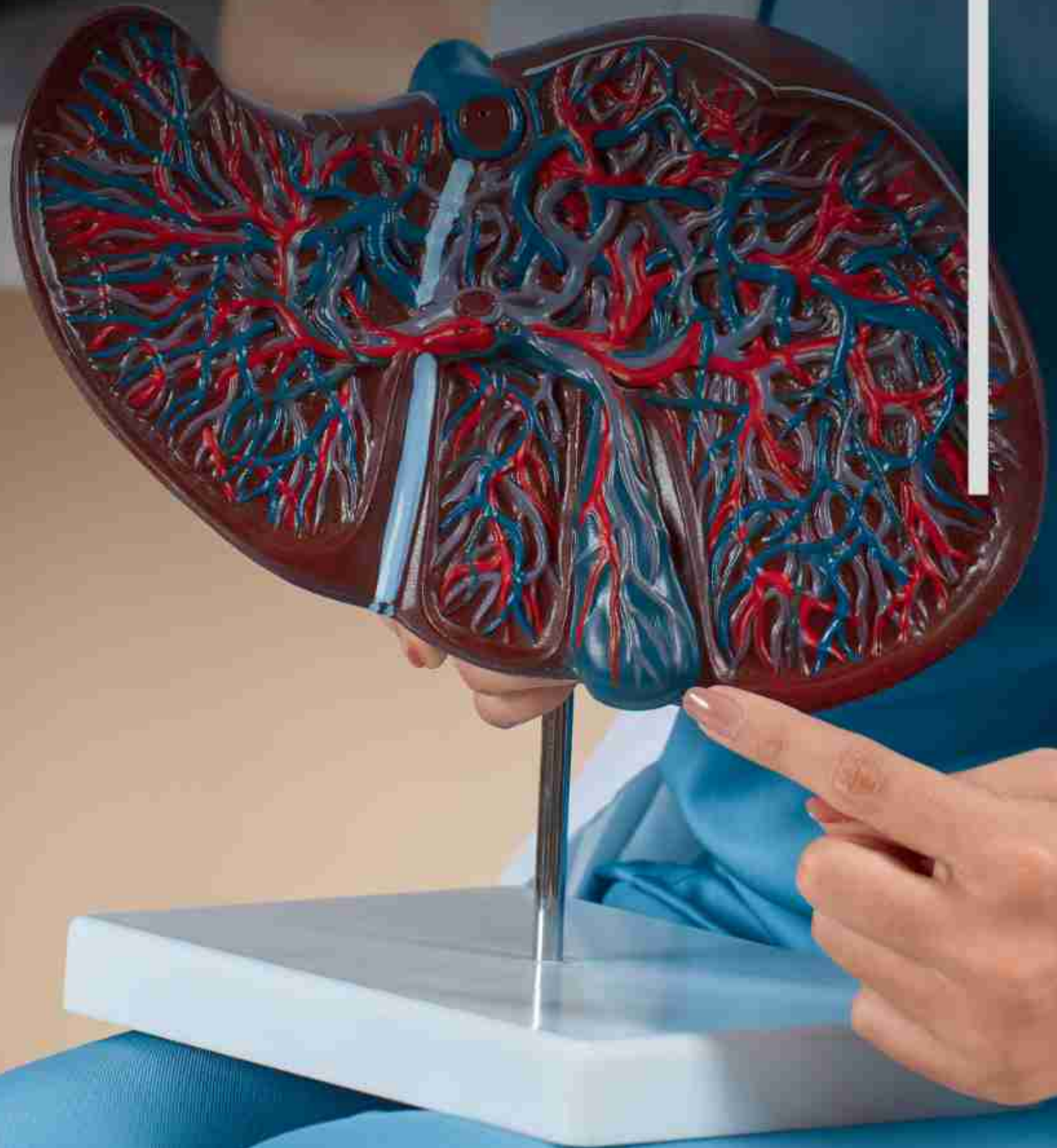


June, 2026

VOL. 12



**Special Edition On
Yakrit-Pleeha Vikara:
Liver & Spleen Related Disorders**





आयुर्तरंगिणी

ई-मैगजीन के पाठकों के लिए

मंत्री, आयुष एवं आयुष शिक्षा का संदेश

प्रिय पाठकों,

मदन कौशिक

(मंत्री, आयुष एवं आयुष शिक्षा,
उत्तराखण्ड)

हमारे लिए यह अत्यंत हर्ष एवं संतोष का विषय है कि “आयुर्तरंगिणी” ई-मैगजीन के माध्यम से उत्तराखण्ड राज्य में आयुष चिकित्सा पद्धतियों, जनस्वास्थ्य से संबंधित महत्वपूर्ण विषयों तथा आयुष विभाग द्वारा संचालित विभिन्न जनकल्याणकारी प्रयासों को व्यापक स्तर पर जनसामान्य तक पहुँचाने का प्रभावी कार्य किया जा रहा है। यह पत्रिका आयुष के वैज्ञानिक, व्यावहारिक एवं जनोपयोगी आयामों को समाज के समक्ष प्रस्तुत करने का एक महत्वपूर्ण माध्यम बनकर उभर रही है।

भारत की समृद्ध चिकित्सा परंपरा में आयुर्वेद को जीवन विज्ञान के रूप में विशेष स्थान प्राप्त है। आयुर्वेद केवल रोगोपचार तक सीमित नहीं है, बल्कि स्वस्थ व्यक्ति के स्वास्थ्य संरक्षण एवं रोगी के विकारों के समग्र प्रबंधन का भी मार्ग प्रशस्त करता है। वर्तमान समय में अनियमित जीवनशैली, असंतुलित आहार, मानसिक तनाव, प्रदूषण तथा अन्य पर्यावरणीय कारणों के परिणामस्वरूप यकृत (Liver) एवं प्लीहा (Spleen) संबंधी विकारों की संख्या निरंतर बढ़ रही है। ऐसे समय में आयुर्वेदिक सिद्धांत एवं उपचार पद्धतियाँ इन रोगों की रोकथाम, प्रबंधन एवं पुनर्वास में महत्वपूर्ण योगदान प्रदान कर सकती हैं।

“आयुर्तरंगिणी” का यह विशेषांक “यकृत-प्लीहा विकार (Yakrit-Pleeha Vikara): Liver & Spleen Disorders” विषय पर आधारित है। इस अंक में यकृत एवं प्लीहा के स्वास्थ्य संबंधी आयुर्वेदिक अवधारणाओं, रोगोत्पत्ति, निदान, निवारण एवं उपचार के विभिन्न पक्षों को सरल एवं वैज्ञानिक दृष्टिकोण से प्रस्तुत किया गया है। साथ ही यकृत विकारों में आहार-विहार, पथ्य-अपथ्य, पंचकर्म चिकित्सा, औषधीय प्रबंधन तथा आधुनिक जीवनशैली के संदर्भ में आयुर्वेद की भूमिका पर भी विस्तृत प्रकाश डाला गया है। यह विशेषांक आयुर्वेद के समग्र दृष्टिकोण को समझने एवं जनसामान्य में स्वास्थ्य जागरूकता बढ़ाने की दिशा में एक महत्वपूर्ण प्रयास है।

मुझे पूर्ण विश्वास है कि यह विशेषांक विद्यार्थियों, शोधकर्ताओं, चिकित्सकों, स्वास्थ्यकर्मियों तथा आम जनमानस के लिए समान रूप से उपयोगी एवं ज्ञानवर्धक सिद्ध होगा। मैं इस ई-मैगजीन के प्रकाशन से जुड़े सभी अधिकारियों, विशेषज्ञों, लेखकों एवं सहयोगियों को हार्दिक बधाई एवं शुभकामनाएँ देता हूँ तथा आशा करता हूँ कि “आयुर्तरंगिणी” आयुष के प्रचार-प्रसार, जनजागरूकता एवं स्वस्थ समाज के निर्माण में निरंतर महत्वपूर्ण भूमिका निभाती रहेगी।



रंजना राजगुरु (आई०ए०एस)
(सचिव, आयुष एवं आयुष शिक्षा विभाग,
उत्तराखंड शासन)

आयुर्तरंगिणी

ई-मैगजीन के पाठकों के लिए

सचिव, आयुष एवं आयुष शिक्षा की कलम से

प्रिय पाठकों,

"आयुर्तरंगिणी" ई-मैगजीन के इस विशेषांक के प्रकाशन पर मुझे अत्यंत प्रसन्नता हो रही है। यह पत्रिका केवल ज्ञान के आदान-प्रदान का माध्यम नहीं है, बल्कि आयुष के सिद्धांतों, वैज्ञानिक दृष्टिकोण एवं जनस्वास्थ्य से जुड़े महत्वपूर्ण विषयों को समाज तक प्रभावी रूप से पहुँचाने का एक सशक्त प्रयास है।

माननीय आयुष एवं आयुष शिक्षा मंत्री जी के कुशल नेतृत्व एवं मार्गदर्शन में राज्य में आयुष सेवाओं को अधिक सुदृढ़, सुलभ एवं जनकेंद्रित बनाने की दिशा में निरंतर कार्य किया जा रहा है। राष्ट्रीय आयुष मिशन के अंतर्गत विभिन्न योजनाओं, जनजागरूकता कार्यक्रमों एवं नवाचारों के माध्यम से स्वास्थ्य सेवाओं के विस्तार एवं गुणवत्ता संवर्धन हेतु उल्लेखनीय प्रयास किए जा रहे हैं।

"आयुर्तरंगिणी" का यह विशेषांक "यकृत-प्लीहा विकार (Yakrit-Pleeha Vikara): Liver & Spleen Disorders" विषय पर आधारित है। वर्तमान समय में अनियमित खान-पान, व्यस्त जीवनशैली, तनाव एवं पर्यावरणीय कारणों के परिणामस्वरूप यकृत एवं प्लीहा संबंधी विकारों में निरंतर वृद्धि देखी जा रही है। ऐसे परिदृश्य में आयुर्वेद अपने समग्र, निवारक एवं स्वास्थ्यवर्धक दृष्टिकोण के माध्यम से इन विकारों के प्रभावी प्रबंधन एवं स्वास्थ्य संरक्षण की दिशा प्रदान करता है।

इस विशेषांक में यकृत एवं प्लीहा के स्वास्थ्य से संबंधित आयुर्वेदिक अवधारणाओं, रोगों के कारणों, रोकथाम, पथ्य-अपथ्य, औषधीय प्रबंधन तथा पंचकर्म चिकित्सा की उपयोगिता पर विशेष रूप से प्रकाश डाला गया है, जिससे पाठकों को स्वास्थ्य संरक्षण एवं रोग-निवारण संबंधी उपयोगी एवं व्यवहारिक जानकारी प्राप्त होगी।

मुझे विश्वास है कि यह विशेषांक विद्यार्थियों, चिकित्सकों, शोधकर्ताओं एवं सामान्य जनमानस के लिए उपयोगी सिद्ध होगा। मैं सभी पाठकों से अपेक्षा करती हूँ कि वे इस ज्ञानवर्धक प्रयास से जुड़ें तथा आयुष की उपयोगिता एवं स्वास्थ्य संरक्षण के संदेश को व्यापक स्तर पर प्रसारित करने में अपना महत्वपूर्ण योगदान प्रदान करें।





आयुर्तरंगिणी

ई-मैगजीन के पाठकों के लिए

निदेशक, आयुर्वेदिक एवं यूनानी सेवायें की कलम से

प्रिय पाठकों,

डॉ. विजय कुमार जोगदण्डे (आई०ए०एस)
(निदेशक, आयुर्वेदिक एवं यूनानी सेवाएँ उत्तराखण्ड)

"आयुर्तरंगिणी" के इस विशेषांक को आपके समक्ष प्रस्तुत करते हुए मुझे अत्यंत हर्ष का अनुभव हो रहा है। यह प्रयास आयुष के विविध आयामों, स्वास्थ्य संबंधी उपयोगी जानकारीयों तथा जनस्वास्थ्य से जुड़े महत्वपूर्ण विषयों को एक मंच पर लाने का एक सार्थक माध्यम है।

मैं इस अवसर पर माननीय आयुष एवं आयुष शिक्षा मंत्री जी के दूरदर्शी नेतृत्व एवं सतत प्रेरणा तथा सचिव महोदय, आयुष एवं आयुष शिक्षा विभाग के मार्गदर्शन एवं सहयोग के प्रति हार्दिक आभार व्यक्त करता हूँ, जिनके निरंतर समर्थन से आयुष सेवाओं के विस्तार एवं जनकल्याण से जुड़े अनेक महत्वपूर्ण प्रयास सफलतापूर्वक संचालित हो रहे हैं।

इस विशेषांक का विषय "यकृत-प्लीहा विकार (Yakrit-Pleeha Vikara): Liver & Spleen Disorders" वर्तमान समय की स्वास्थ्य आवश्यकताओं के अनुरूप अत्यंत प्रासंगिक है। इसके अंतर्गत यकृत एवं प्लीहा संबंधी आयुर्वेदिक अवधारणाओं, रोगोत्पत्ति, निवारण एवं प्रबंधन के साथ-साथ पथ्य-अपथ्य, जीवनशैली प्रबंधन तथा पंचकर्म चिकित्सा की उपयोगिता पर भी विशेष सामग्री प्रस्तुत की गई है, जो स्वास्थ्य संरक्षण एवं रोग-निवारण के व्यावहारिक पहलुओं को सरल रूप में समझाती है।

यह विशेषांक चिकित्सकों, विद्यार्थियों, शोधकर्ताओं तथा सामान्य जनमानस सभी के लिए समान रूप से लाभकारी सिद्ध होगा। मैं सभी पाठकों से आग्रह करता हूँ कि वे इस विशेषांक का अध्ययन करें तथा आयुर्वेद के सिद्धांतों एवं स्वास्थ्यवर्धक जीवनशैली को अपने दैनिक जीवन में अपनाने हेतु प्रेरित हों।

इस प्रकाशन से जुड़े सभी अधिकारियों, विशेषज्ञों एवं सहयोगियों को हार्दिक शुभकामनाएँ एवं बधाई।





वसुप्रतशंगणी

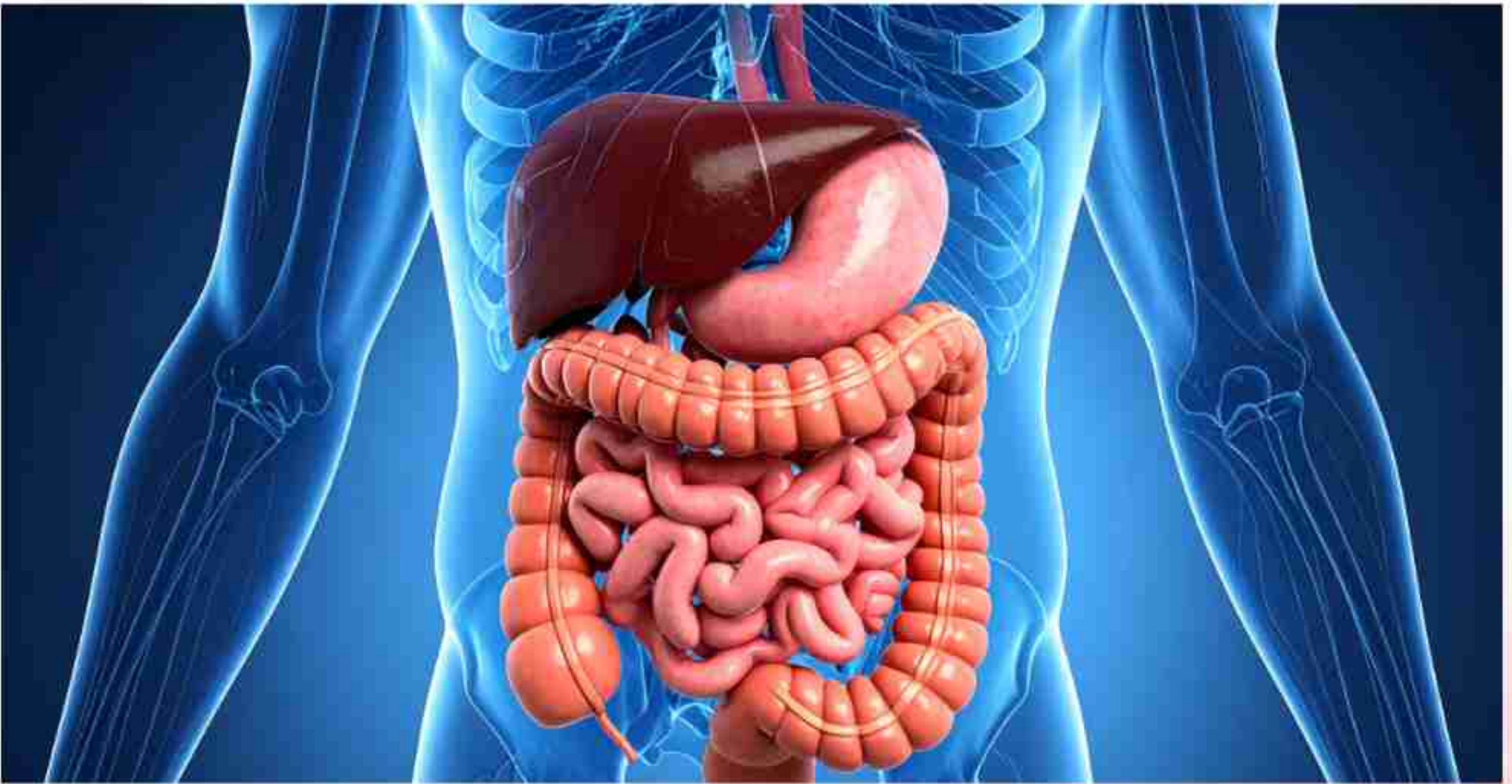
e-magazine by AYUSH Department, Uttarakhand Govt

June, 2026

(विशेषांक)

“यकृत प्लीहा संबंधी विकार”

{ Liver & Spleen Related Disorders }



Dihydromyricetin in Ayurveda: Phytochemical Sources and Pharmacological Synergy

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Introduction

Dihydromyricetin (DHM, C₁₅H₁₂O₈), alternately known as ampelopsin, is a structurally robust and highly bioactive flavanonol widely recognized for its potent hepatoprotective, anti-inflammatory, and neuroprotective properties. While this compound is traditionally associated with East Asian medicinal flora, an exhaustive phytochemical analysis reveals that several classical Ayurvedic herbs native to the Indian Himalayan region are prolific and sustainable sources of DHM. The integration of these DHM-rich botanicals into Ayurvedic clinical practice spans millennia. Historically, these plants have been leveraged to treat conditions synonymous with liver toxicity (Yakrit roga), alcohol intoxication (Madatyaya), and systemic autoimmune inflammation ¹.

The Ayurvedic correlation of Dihydromyricetin (DHM) bridges ancient clinical practice with modern pharmacodynamics, as DHM-rich botanicals like *Vitis vinifera* (Draksha) and *Myrica esculenta* (Katphala) have long been utilized to treat Madatyaya (alcohol intoxication), Yakrit (liver) disorders, and inflammatory joint pain ². Mechanistically, this traditional efficacy is executed through DHM's ability to upregulate ADH and ALDH enzymes to rapidly clear toxic alcohol metabolites , its competitive inhibition of benzodiazepine sites on GABAA receptors to neutralize neurological intoxication , and its profound suppression of pro-inflammatory cascades, notably reducing IL-17A expression and complexing with RORγ to halt systemic autoimmune responses ³.

Sources of Dihydromyricetin

A detailed pharmacognostic analysis identifies four primary high-value Ayurvedic plants as significant sources of dihydromyricetin.

Cedrus deodara (Devadaru), a large coniferous tree native to the high altitudes of the Himalayas, is revered in Ayurveda for its Vata and Kapha pacifying properties. Recent chemical profiling has isolated 2R,3R-dihydromyricetin from its pine needles and heartwood, alongside complementary bioactive compounds such as taxifolin and cedeodarin ⁴. *Myrica esculenta* (Katphala), a sub-temperate evergreen tree, contains high concentrations of DHM (ampelopsin) and its direct oxidation product, myricetin, within its medicinal bark ¹.

Vitis vinifera (Draksha), the common grapevine, yields free dihydromyricetin and structurally related oligostilbenes like Ampelopsin A from its canes, roots, and juice ⁵. Furthermore, *Rhododendron arboreum* (Buransh), the ecologically vital state tree of Uttarakhand, has been definitively confirmed via HPLC-ESI-QTOF-MS profiling to contain substantial DHM concentrations within its red and pink flower petals, establishing it as a remarkably rich reservoir of bioactive secondary metabolites ⁶.

Ayurvedic Plant Source	Classical Name	Primary DHM Location	Key Associated Phytochemicals	Classical Clinical Applications
<i>Cedrus deodara</i>	Devadaru	Pine needles, Heartwood	Taxifolin, Cedeodarin, Cedrin	Mutrala, Twak Vikara, Angamarda

Ayurvedic Plant Source	Classical Name	Primary DHM Location	Key Associated Phytochemicals	Classical Clinical Applications
<i>Myrica esculenta</i>	Katphala	Bark	Myricetin, Tannins, Lutein	Jwar, Shwasa, Sandhivata, Raktpitta
<i>Vitis vinifera</i>	Draksha	Canes, Juice	Ampelopsin A, Resveratrol	Yakrit (liver), Agnimandya
<i>Rhododendron arboreum</i>	Buransh	Flower petals	Dihydroquercetin, Gallic acid	Ajeerna, Shoth, Madatya

Pharmacological Mechanisms and Therapeutic Efficacy

The therapeutic efficacy of these traditional herbs is directly substantiated by the targeted pharmacological mechanisms of dihydromyricetin.

Hepatoprotection and Mitigation of Alcohol Intoxication 7

DHM exhibits profound hepatoprotective and anti-intoxication properties, fundamentally acting to mitigate alcohol-induced cellular damage. Upon ethanol ingestion, DHM significantly accelerates blood alcohol clearance by upregulating alcohol dehydrogenase (ADH) and acetaldehyde dehydrogenase (ALDH), rapidly converting highly toxic acetaldehyde into benign acetic acid. This enzymatic enhancement effectively prevents the mitochondrial disruption and hepatic steatosis associated with alcohol consumption. Centrally, DHM operates as a neuroactive agent capable of crossing the blood-brain barrier. It competitively inhibits benzodiazepine-site binding on GABAA receptors with an IC50 of 4.36 uM. By neutralizing ethanol-induced GABAA receptor plasticity, DHM prevents severe neuronal suppression during intoxication and suppresses the dangerous hyperexcitability associated with alcohol withdrawal symptoms (AWS). Animal models show that DHM reduces the ethanol-induced loss of righting reflex (LORR) and curtails voluntary ethanol consumption, substantiating its potential for treating Alcohol Use Disorder.

Immunomodulation and Neuroprotection 8

Beyond its interactions with ethanol, DHM is a potent immunomodulator. It suppresses interconnected pro-inflammatory signaling cascades, including the ROS/Akt/IKK/NF-kappaB pathways and the NLRP-3 inflammasome, thereby halting systemic inflammation. Advanced in vivo models tracking systemic sclerosis and atopic dermatitis demonstrate that oral DHM administration dramatically reduces the expression of Interleukin-17A (IL-17A). Critically, DHM forms a stable complex with RORgammat, crippling the pathogenic T-cell responses driving autoimmune conditions. This precise mechanism validates the classical use of *M. esculenta* in *Katphaladi Churna* for severe inflammation and *C. deodara* for managing arthritic joint pain.

Neurologically, DHM actively restores cholinergic deficits and enhances long-term potentiation in hippocampal CA3-CA1 synapses via the activation of BDNF and CREB signaling cascades. This neuroprotective capability accounts for the cognitive-enhancing benefits historically attributed to extracts of *Vitis vinifera*. Furthermore, as a potent monophenolase and diphenolase inhibitor, DHM derived from *C. deodara* exhibits exceptional tyrosinase inhibitory activity, acting to protect cellular integrity from oxidative degradation.

Oncology and Metabolic Regulation 9

Dihydromyricetin also demonstrates profound regulatory effects on cellular proliferation and glucose homeostasis. Oncologically, DHM functions as an mTOR inhibitor, halting the epithelial-mesenchymal transition (EMT) by suppressing invadopodia formation and gelatin degradation, effectively restricting the metastatic invasion of aggressive cell lines. In metabolic syndrome models, DHM activates AMP-activated protein kinase (AMPK) and sirtuins, promoting autophagy and restoring insulin sensitivity, thereby significantly reducing fasting blood glucose levels in Type 2 diabetes.

Discussion

Despite its profound in vitro efficacy, isolated DHM faces severe pharmacokinetic limitations, notably poor aqueous solubility and rapid biological clearance. However, the pharmaceuticals of traditional Ayurveda effectively bypass these contemporary drug-delivery challenges.

The classical formulation of Draksharista, utilizing the natural fermentation of *Vitis vinifera*, creates a hydroalcoholic matrix that perfectly solubilizes DHM and structurally related oligostilbenes. This delivery mechanism guarantees maximal systemic absorption for the treatment of liver disorders and Madatyaya. Similarly, extracting *Myrica esculenta* into a lipid base to create Katphala Taila optimizes the transdermal delivery of DHM, allowing its RORgammat -inhibiting, anti-inflammatory properties to bypass the gastrointestinal tract and act directly on localized arthritic pain.

Conclusions

Dihydromyricetin represents a vital bridge between classical Ayurvedic medicine and modern molecular pharmacology. The identification of DHM in high-value Himalayan flora such as *Cedrus deodara*, *Myrica esculenta*, *Vitis vinifera*, and *Rhododendron arboreum* offers empirical validation for the sophisticated healing systems of ancient India. By leveraging classical preparation methods like fermented arishtas and lipid tailas, Ayurveda successfully resolved the bioavailability challenges that hinder isolated DHM applications today. Disseminating this intersection of phytochemistry and traditional knowledge not only bolsters the scientific credibility of AYUSH practices but also drives the development of evidence-based, sustainable phytomedicines derived from the rich biodiversity of Uttarakhand.

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Preventive Role of Dinacharya, Ritucharya, Pathya-Apathya, and Stress Management in Maintaining Hepatic Health

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Abstract

The liver is one of the most vital organs of the human body, playing a central role in metabolism, detoxification, digestion, nutrient storage, and immune regulation. In recent years, the prevalence of hepatic disorders has increased significantly due to unhealthy dietary habits, sedentary lifestyles, psychological stress, and substance abuse. Ayurveda considers the liver (*Yakrit*) an important seat of *Ranjaka Pitta* and closely associated with *Raktavaha Srotas*. Classical Ayurvedic principles such as *Dinacharya*, *Ritucharya*, *Pathya-Apathya*, and stress management play an important preventive role in maintaining hepatic health.

Introduction

According to Ayurveda, the primary aim of healthcare is “*Swasthasya Swasthya Rakshanam*,” meaning the preservation of health in healthy individuals. Modern lifestyles characterised by irregular eating habits, processed food consumption, sleep disturbances, physical inactivity, and chronic stress have contributed significantly to the rise in liver diseases such as fatty liver disease, hepatitis, and cirrhosis. Ayurvedic preventive approaches emphasise maintaining physiological balance through proper lifestyle and dietary practices, thereby reducing the burden on hepatic function.

Role of Dinacharya in Hepatic Health

Dinacharya refers to a structured daily regimen designed to maintain physical and mental well-being. Ayurveda recommends waking up during Brahma Muhurta, which aligns with the body's circadian rhythm and supports metabolic homeostasis. Scientific evidence suggests that disrupted sleep cycles and irregular schedules negatively affect liver metabolism, promoting fat accumulation and metabolic dysfunction.

Regular physical activity is another essential component of Dinacharya. Practices such as yoga and exercise improve blood circulation and metabolic activity. Specific yogic postures, including Bhujangasana, Ardha Matsyendrasana, and Pawanmuktasana, may improve abdominal circulation and support digestive and hepatic functions.

Ayurveda also advocates Abhyanga, adequate sleep, and proper hygiene to maintain doshic balance, particularly Vata Dosha, which indirectly influences digestion and metabolism. Timely food intake is equally important, as irregular eating patterns can weaken Agni (digestive fire), resulting in the formation of Ama, which may place an additional burden on liver function.

Ritucharya and Hepatic Protection

Ritucharya is an important Ayurvedic concept that advocates adapting lifestyle and diet according to seasonal changes. Ayurveda explains that different seasons influence the accumulation, aggravation, and pacification of bodily *Doshas*, thereby affecting overall health, including hepatic function.

During *Grishma Ritu*, depletion of bodily strength and accumulation (*Sanchaya*) of *Vata Dosha* occur due to excessive heat and dryness. Therefore, cooling, hydrating, and easily digestible foods such as fresh fruits, coconut water, and adequate fluid intake are recommended to maintain metabolic balance and prevent excessive physiological stress. Excessively spicy, oily, and fried foods should be minimised, as they may disturb *Pitta* and negatively influence hepatic function.

During *Varsha Ritu*, *Jatharagni* becomes weakened, increasing susceptibility to impaired digestion and metabolic imbalance. Hence, light, warm, and easily digestible foods are advised. In *Sharad Ritu*, aggravated (*Prakupit*) *Pitta Dosha* may influence hepatic physiology; therefore, *Tikta* and *Madhura* foods with cooling properties are recommended to restore equilibrium. Such seasonal adaptations help maintain internal homeostasis and reduce metabolic stress on the liver.

Importance of Pathya-Apathya in Hepatic Health

The Ayurvedic concepts of Pathya and Apathya emphasise healthy and unhealthy dietary habits, respectively. A liver-friendly diet includes fresh fruits, green vegetables, whole grains, legumes, and herbal substances such as turmeric and Triphala. Turmeric contains curcumin, a bioactive compound with antioxidant and anti-inflammatory properties, which may protect hepatocytes from oxidative stress and inflammation.

Conversely, excessive intake of processed foods, refined sugars, saturated fats, alcohol, and overeating can impair hepatic function. Ayurveda discourages *Atisnigdha Ahara*, overeating, and *Viruddha Ahara*, considering them contributors to disease development. Modern scientific studies have linked unhealthy dietary habits and obesity with non-alcoholic fatty liver disease (NAFLD), emphasising the importance of balanced nutrition. Proper dietary practices support digestion, metabolism, and detoxification processes, thereby preserving liver function.

Stress Management and Hepatic Health

Psychological stress is increasingly recognised as an important contributor to metabolic and inflammatory disorders, including liver diseases. Chronic stress increases the secretion of cortisol and other stress hormones, potentially affecting glucose metabolism and promoting fat deposition in the liver.

Ayurveda recognises the significance of mental well-being through the regulation of *Sattva*, *Rajas*, and *Tamas*—the psychological attributes of the mind. Stress management techniques such as meditation, yoga, *Pranayama*, and *Sadvrta* are emphasized for maintaining mental equilibrium.

Practices such as *Anulom-Vilom* and *Bhramari Pranayama* have shown beneficial effects in reducing stress and improving autonomic balance. Adequate sleep, mindfulness, and emotional stability indirectly support hepatic health by reducing systemic inflammation and metabolic disturbances.

Conclusion

Ayurvedic preventive principles offer a comprehensive and holistic approach to maintaining hepatic health. Adherence to Dinacharya and Ritucharya promotes physiological balance and metabolic stability, while proper Pathya-Apathya supports healthy digestion and liver function. Stress management further contributes to hepatic well-being by minimising psychological and metabolic disturbances. Therefore, integrating Ayurvedic lifestyle principles into daily life may play a significant preventive role in reducing the incidence of hepatic disorders and promoting overall health.

Role of Agni, Ama, Raktadushti, Pitta Imbalance, and Srotodushti in the Pathogenesis of Liver Disorders: An Ayurvedic Perspective

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Abstract

Liver disorders represent a significant global health burden. Ayurveda, the ancient Indian system of medicine, provides a comprehensive framework for understanding hepatic disease through the interplay of Agni (digestive fire), Ama, Raktadushti (vitiation of blood), Pitta imbalance, and Srotodushti. This article explores these five interconnected pathogenic mechanisms and their role in the development of liver disease, offering a bridge between classical Ayurvedic theory and contemporary hepatology.

Introduction

In classical *Ayurvedic* literature, the liver referred to as *Yakrit* holds a position of exceptional physiological importance. It is designated as the primary abode of *Ranjaka Pitta*, the *dosha* governing haematopoiesis and the biochemical colouration of blood. The *Charaka Samhita*¹ (*Chikitsa Sthana*) and the *Sushruta Samhita*² (*Uttara Tantra*) both describe the liver as the origin point of the *Raktavaha srotas* (channels carrying blood), situating it at the very centre of nutritive physiology.

Hepatic diseases described in these classical texts including *Kamala* (jaundice), *Kumbhakamala* (chronic hepatitis or cirrhosis), *Halimaka* (refractory jaundice with profound anaemia), and *Yakriddalyudara* (hepatomegaly with ascites) are characterised with a clinical precision that continues to impress modern scholars. Each of these conditions is understood to arise from a disruption of five core pathogenic processes: impaired *Agni*, accumulation of *Ama*, vitiation of *Rakta dhatu*, aggravation of *Pitta dosha*, and dysfunction within the *Srotas*. These elements do not operate independently, rather, they perpetuate and amplify one another within an interconnected disease cascade.

Role of Agni in Liver Disorders

Agni, the biological fire of digestion and metabolism, is the cornerstone of Ayurvedic physiology. At the hepatic level, *Ranjaka Pitta*, a manifestation of Agni residing in the liver and spleen is responsible for converting *Rasa dhatu* (plasma/chyle) into *Rakta dhatu* (blood). When Agni functions optimally (*Sama Agni*), this transformation is efficient and complete. Impairment of Agni can manifest in four pathological states: *Sama* (balanced), *Vishama* (irregular), *Tikshna* (sharp/excessive), and *Manda* (sluggish)³. In hepatic pathology, both *Manda Agni* and *Tikshna Agni* play decisive roles. *Mandagni* leads to incomplete digestion and the accumulation of *Ama*, while *Tikshna Agni* fuelled by excessive *Pitta* causes inflammatory damage to the liver parenchyma. In Ayurveda, impaired *Rakta Dhatvagni* in the liver leads to abnormal blood formation, disturbed bilirubin metabolism, and impaired liver function, contributing to *Kamala* (jaundice) with characteristic yellow discoloration of the skin and eye (*Pandutha* and *Haridra netra*).



Role of Ama in Liver Disorders

The term *Ama* etymologically meaning unripe or unprocessed denotes the harmful metabolic residue generated when *Agni* fails to complete its digestive and transformative function. Physically characterised as *Picchila* (sticky), *Guru* (heavy), *Sheeta* (cold), and *Durgandhi*, *Ama* is the antithesis of *Agni* in both quality and action⁴.

Ama, formed due to impaired digestion, circulates through the body and accumulates in the liver, where it obstructs channels, disrupts *Ranjaka Pitta*, and promotes inflammation and tissue damage. This conceptualisation closely parallels the contemporary understanding of how gut-derived endotoxins particularly lipopolysaccharides from pathogenic bacteria overwhelm the liver's Kupffer cells to initiate and sustain inflammatory liver diseases such as NAFLD, alcoholic hepatitis, and cirrhosis⁵. The Ayurvedic concept of *Sama Pitta*, *Pitta* that has combined with *Ama* is particularly instructive. Unlike pure *Pitta* which is sharp and mobile, *Sama Pitta* is obstructive and fermentative, producing the clinical picture of nausea, abdominal heaviness, foul-smelling stools, and hepatomegaly familiar in metabolic liver diseases.

Role of Raktadushti in Liver Disorders

As the liver is the origin of *Raktavaha Srotas* and *Rakta Dhatu*, liver disorders lead to *Raktadushti*, while pre-existing vitiated blood caused by improper diet or toxin accumulation can also contribute to hepatic disease.

Charaka Samhita categorises *Kamala* directly among the diseases arising from *Pitta* dominant *Raktadushti*. When vitiated *Pitta* enters and pervades the *Rakta dhatu*, it manifests systemically as the characteristic yellowing of skin, conjunctiva, urine, and faeces. The spectrum of *Raktadushti* in hepatology is broad *Pitta*-dominant vitiation produces acute inflammatory hepatitis with fever, burning pain, and jaundice; *Kapha*-dominant *Raktadushti* produces fatty infiltration⁶, sluggish hepatic function, and splenomegaly.

Both modern hepatology and *Ayurveda* recognize that the liver and blood are closely linked, liver dysfunction causes blood abnormalities, while *Raktadushti* can both result from and contribute to liver disease.

Role of Pitta Imbalance in Liver Disorders

Pitta Dosha, especially *Ranjaka Pitta* located in the liver and spleen, regulates bile production and blood formation. Excessive intake of spicy, sour, salty foods, alcohol, fermented foods, heat exposure, and anger aggravates *Pitta*, leading to impaired bile metabolism, disturbed liver function, and systemic inflammation through the *Raktavaha Srotas*.

In *Shakhashritha Kamala* (obstructive jaundice), *Pitta* along with *Kapha* obstructs the bile channels (*Pittavaha srotas*), directly correlating with the biliary obstruction of modern hepatology. In *Koshtha-shakha Kamala* (haemolytic jaundice), the predominance of *Pitta* in the intestinal channels produces haemolysis. The grading of *Kamala* into primary (*Nava*) and chronic (*Chirakala*) also parallels the clinical staging of acute and chronic liver disease.

Role of Srotodushti in Liver Disorders

Srotodushti in liver disease involves dysfunction of the body's transport channels. *Sanga* (obstruction) corresponds to biliary blockage and cholestasis, *Ati Pravritta* (excessive flow) to haemorrhage and variceal bleeding, and *Vimarga Gamana* (abnormal flow) to ascites, oedema, and bleeding in cirrhosis. The primary channels affected are *Raktavaha Srotas* and *Pittavaha Srotas*, while secondary involvement of *Swedavaha* and *Mutravaha Srotas* leads to jaundice and dark urine.

Pathogenesis (*Samprapti*)

- **Nidana**- Exposure to causative factors dietary excess, alcohol, hepatotoxic herbs or medications, infections, and sustained emotional stress initiates dosha disturbance.
- **Sanchaya** - *Pitta* and *Ama* begin to accumulate within the gastrointestinal tract and hepatic tissue; *Agni* diminishes progressively.
- **Prakopa** - Accumulated *Pitta* becomes aggravated; *Ama* production escalates; *Agni* is further suppressed in a self-reinforcing cycle.
- **Prasara**- Vitiating *Pitta* and *Ama* spread systemically through the *Raktavaha srotas*; *Raktadushti* is established.
- **Sthanasamshraya** - Pathogenic factors lodge specifically in the *Yakrit* (liver), initiating *Srotodushti*; early clinical signs emerge.
- **Vyaktavastha**- Full clinical manifestation *Kamala*, *Kumbhakamala*, *Halimaka*, or related hepatic syndromes becomes evident.
- **Bhedavastha**- Chronicity ensues with structural hepatic changes (*Yakrid vridhhi*, fibrosis, cirrhosis); prognosis becomes guarded.

Conclusion

The Ayurvedic framework provides a sophisticated, clinically grounded model for understanding liver disease that rewards close examination. The five pathogenic pillars *Agni* impairment, *Ama* accumulation, *Raktadushti*, *Pitta* aggravation, and *Srotodushti* are neither isolated entities nor simple sequential steps, they constitute a dynamic, mutually reinforcing network of dysfunction that collectively produces, sustains, and amplifies hepatic pathology⁷.

Modern hepatology and Ayurveda show significant overlap in explaining liver disease through concepts such as gut dysfunction, inflammation, blood disorders, biliary abnormalities, and fibrosis. This convergence supports an integrated approach to liver disease prevention and management, while encouraging further research on *Agni* restoring, *Ama* reducing, and *Pitta* balancing therapies.

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PATHOGENESIS OF HEPATIC DISORDERS (YAKRIT VIKARA) IN AYURVEDA:

A COMPREHENSIVE REVIEW ON THE INTERPLAY OF AGNI, AMA, PITTA, RAKTADUSHTI, AND SROTODUSHTI

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ABSTRACT:-

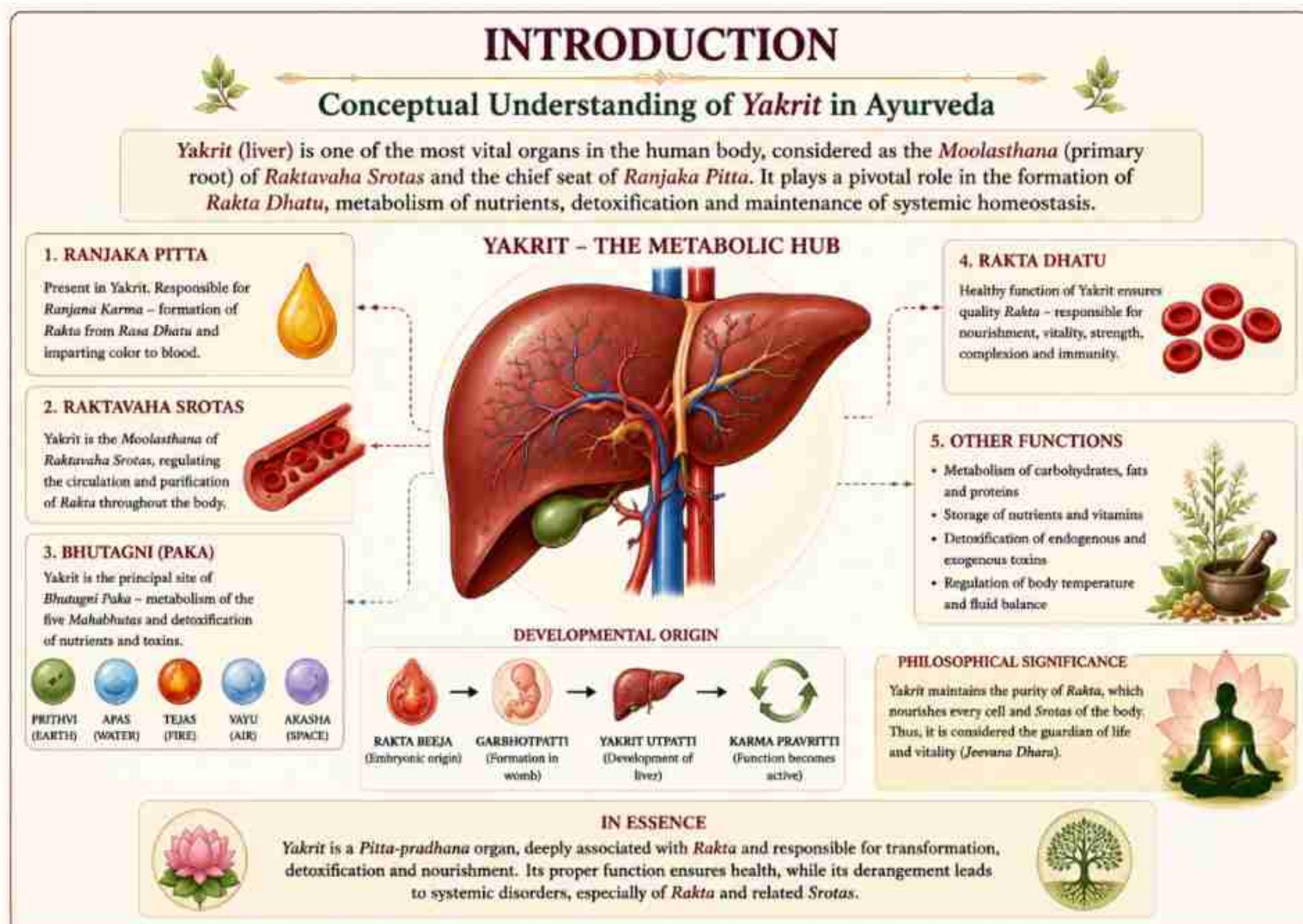
Background: In the classical Ayurvedic paradigm, the liver (Yakrit) is recognized as a profound metabolic hub, fundamentally responsible for the transformation and purification of bodily tissues. Hepatic disorders, categorized broadly under Yakrit Vikara, Kamala (jaundice), and Yakriddalyudara (hepatomegaly), emerge from a complex cascade of metabolic and structural disturbances.

Objective: This article aims to systematically evaluate the synergistic roles of Agni (metabolic fire), Ama (metabolic toxins), Pitta imbalance, Raktadushti (vitiation of blood), and Srotodushti (channel pathology) in the pathogenesis of liver disorders.

Methodology: A comprehensive review of classical Ayurvedic literature was conducted to synthesize the pathophysiological sequence (Samprapti) of hepatic diseases.

Conclusion: The pathogenesis of liver disorders is firmly rooted in Agnimandya, which generates Ama. This toxic accumulation disrupts Ranjaka Pitta and vitiates Rakta Dhatu, ultimately culminating in Srotodushti within the Raktavaha Srotas. Understanding this multifaceted interplay is essential for developing targeted therapeutic interventions.

1. INTRODUCTION:-



The liver (Yakrit), developmentally derived from the essence of Rakta Dhatu (blood tissue), is structurally and functionally central to systemic metabolism in Ayurveda. It serves as the Moolasthan (primary root) of the Raktavaha Srotas (blood-carrying channels) and is the chief site for Ranjaka Pitta, the biological entity responsible for imparting color to the nutrient fluid (Rasa), thereby forming healthy blood.

Unlike the modern anatomical perspective that views pathogenesis through cellular and molecular injury, Ayurveda evaluates hepatic pathology through a functional and systemic lens. The architectural distortion and functional failure of the liver are rarely isolated events; rather, they are the end-stage manifestations of a chronological sequence of physiological derangements. The five fundamental pillars of this pathological cascade are Agni, Ama, Pitta, Rakta, and Srotas.

2. THE FUNDAMENTAL ROLE OF AGNI (METABOLIC FIRE):-

Agni represents the entirety of digestive and metabolic processes in the human body. In the context of liver function, all three levels of Agni are critically involved:

Jatharagni (Gastrointestinal Fire): The primary digestive fire.

Bhutagni (Elemental Fire): The liver is considered the primary seat of Bhutagni Paka (metabolism of the five basic elements). Nutrient fractions from the gut undergo specific elemental processing in the liver before they can be assimilated by the tissues.

Dhatvagni (Tissue Fire): Specifically, Raktagni operates within the liver to synthesize healthy Rakta Dhatu.

Pathological Impact:

The genesis of all hepatic disorders begins with Agnimandya (hypofunction of Agni). When Jatharagni is impaired due to improper dietary habits (Mithya Ahara) or lifestyle factors, the primary digestion fails. Furthermore, if Bhutagni within the liver is sluggish, the hepatic parenchyma fails to metabolize and detoxify portal nutrients. This metabolic incompetence at the hepatic level is the first definitive step toward liver disease.

3. GENERATION AND ACCUMULATION OF AMA (METABOLIC TOXINS):-

Ama is the direct consequence of Agnimandya. It refers to un-metabolized, toxic, and pro-inflammatory biochemical waste.

Pathological Impact in the Liver:

When Ama is absorbed from the gastrointestinal tract, it travels via the portal circulation directly to the Yakrit. Because the liver's own Bhutagni is already compromised, it cannot neutralize this circulating Ama.

Cellular Toxicity: Ama is heavy (Guru), sticky (Snigdha), and obstructing (Srotorodha). It coats the hepatic cells and microchannels.

Auto-intoxication: The accumulation of Ama triggers a systemic inflammatory response, laying the groundwork for chronic hepatic conditions such as fatty liver disease (hepatic steatosis) and subsequent fibrosis.

4. PITTA IMBALANCE: THE CORE OF HEPATIC DYSFUNCTION:-

Yakrit is a Pitta-dominant organ. Specifically, it houses Ranjaka Pitta. Due to the Ashraya-Ashrayi Bhava (the relationship of the resident and the residence), the health of the liver is inseparable from the state of Pitta Dosha.

Pathological Impact: The presence of Ama in the liver provokes Pitta, leading to Sama Pitta (Pitta mixed with toxins).

Impaired Ranjana Karma: The primary function of Ranjaka Pitta—converting Rasa to Rakta—is disrupted. This leads to the circulation of immature, poorly oxygenated blood, presenting clinically as Pandu (anemia).

Inflammation and Necrosis: Vitiating Pitta exhibits excessive heat (Ushna) and sharpness (Tikshna). This localized hypermetabolic state leads to hepatic cellular damage, inflammation (Paka), and necrosis, clinically correlating with conditions like hepatitis.

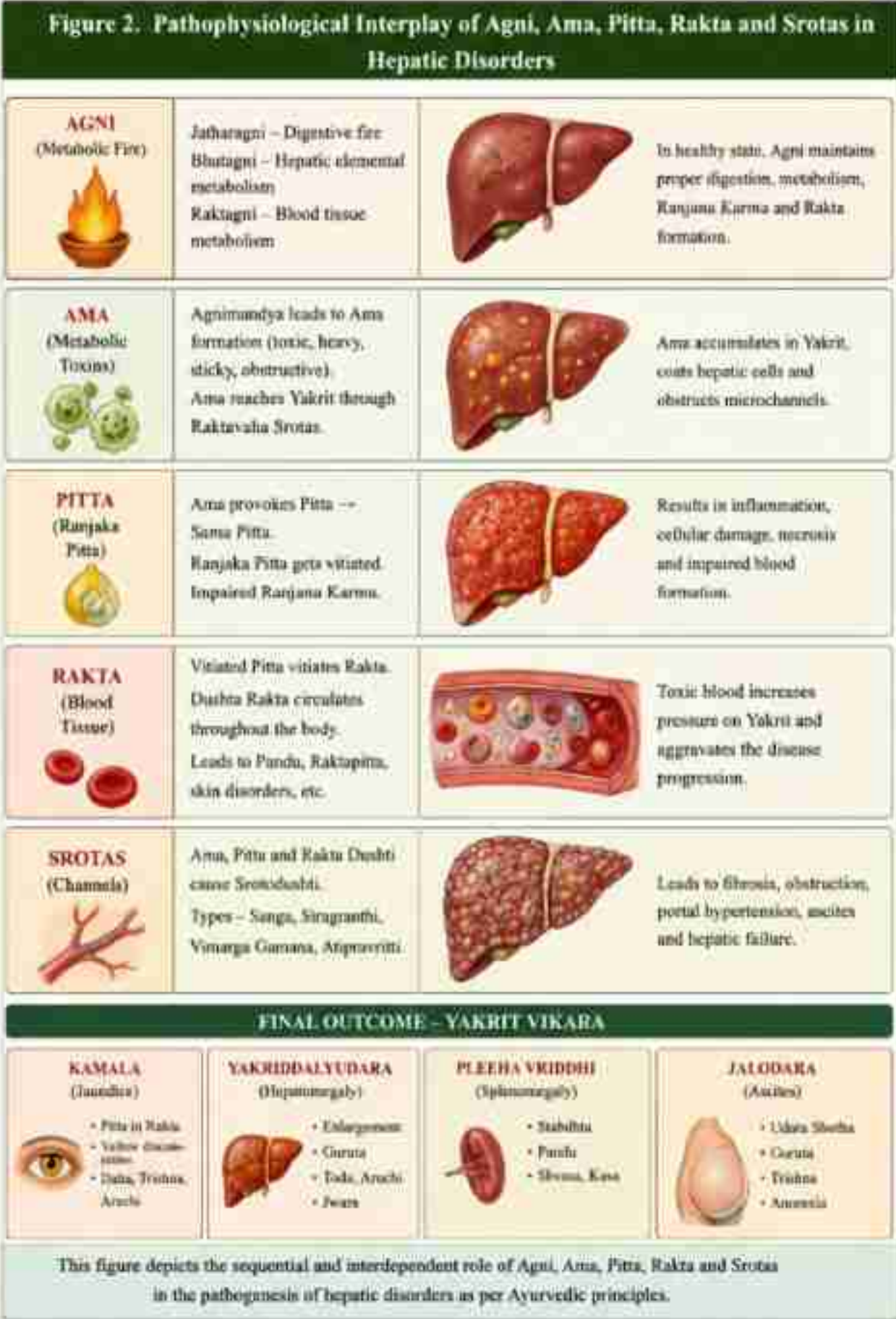
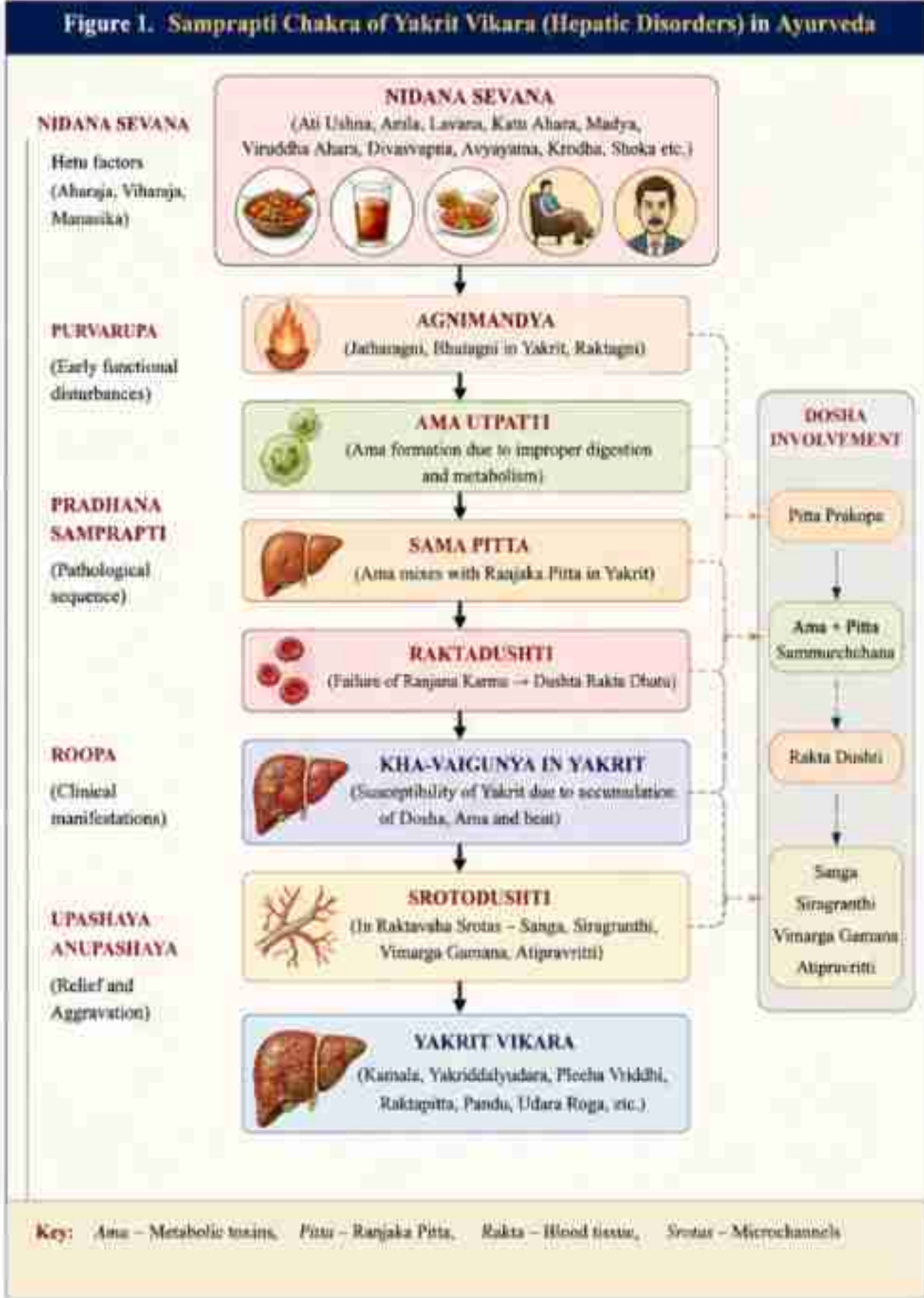
5. RAKTADUSHTI (VITIATION OF BLOOD TISSUE):-

Pitta and Rakta share a direct reciprocal relationship. Factors that vitiate Pitta inherently vitiate Rakta, and vice versa.

Pathological Impact: Once Ranjaka Pitta is deranged, the resulting Rakta Dhatu is pathologically altered (Raktadushti).

Toxemia: The liver, instead of purifying the blood, becomes a reservoir of vitiated blood.

Systemic Manifestations: This toxic blood circulates systemically, leading to dermatological manifestations, bleeding disorders (Raktapitta), and severe vascular complications. The increased volume and altered viscosity of vitiated blood create immense physical pressure on the hepatic parenchyma, contributing to organomegaly.



6. SROTODUSHTI (CHANNEL PATHOLOGY IN THE LIVER):-

Srotas are the micro and macro channels that facilitate the flow of nutrients, tissues, and wastes. The liver is governed by the Raktavaha Srotas. Pathological changes in these channels (Srotodushti) finalize the disease architecture.

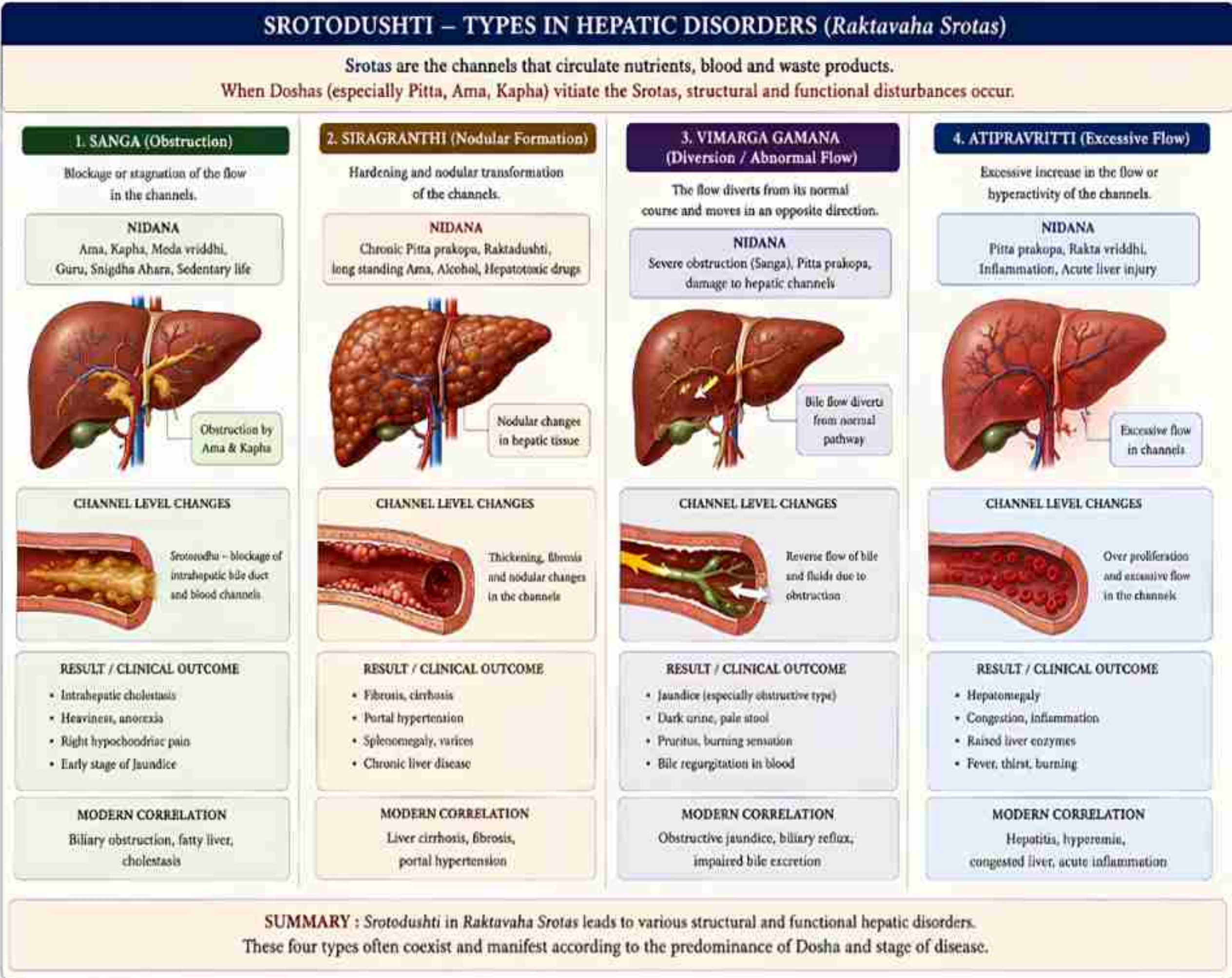
Classical texts describe four types of Srotodushti, all of which can manifest in liver disorders:

Sanga (Obstruction): Ama and aggravated Kapha physically block the intrahepatic biliary and vascular channels. This leads to intrahepatic cholestasis.

Siragranthi (Nodular Formations): Chronic obstruction and cellular damage lead to the hardening of channels and formation of nodules, closely mimicking hepatic cirrhosis and portal hypertension.

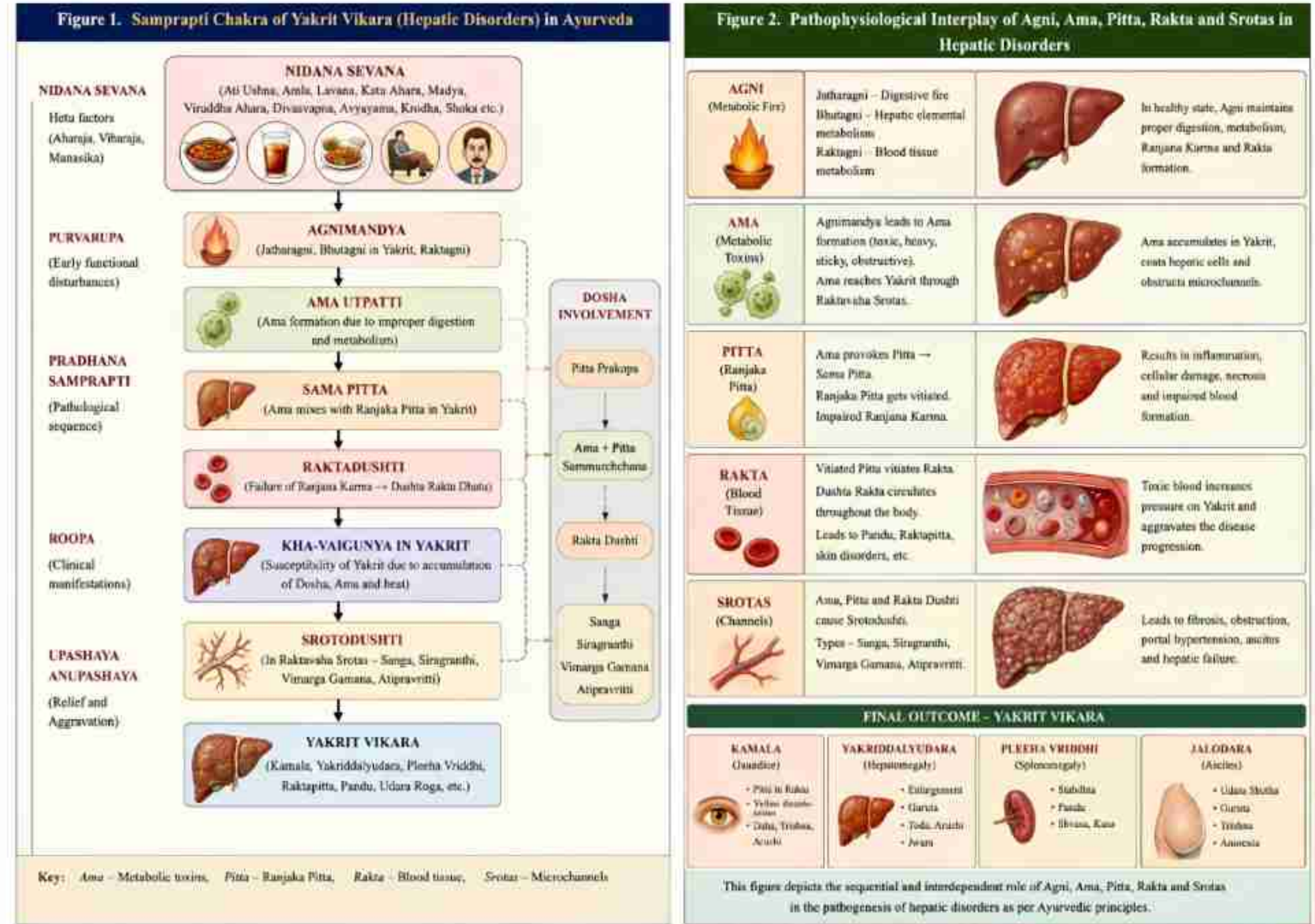
Vimarga Gamana (Diversion of Flow): Due to obstruction (Sanga) in the normal pathways, bodily fluids and bile reverse their course. Bile enters the systemic circulation instead of the intestines, manifesting as Shakhshrita Kamala (obstructive jaundice).

Atipravritti (Excessive Flow): In early stages of inflammation, there may be an excessive proliferation of tissues or fluids, contributing to hepatomegaly (Yakriddalyudara).



7. INTEGRATED PATHOGENESIS (SAMPRAPTI CHAKRA):-

To understand the chronological flow of these five elements, the pathogenesis can be visualized through the following schematic figure.



8. DISCUSSION:-

The Ayurvedic pathogenesis of liver disease is a continuum. It highlights that treating the liver in isolation is therapeutically insufficient. The progression from Agnimandya to Srotodushti emphasizes why classical management prioritizes the correction of digestion (Deepana-Pachana) and the systemic clearance of Ama before attempting to stimulate the liver directly.

Furthermore, the emphasis on Srotodushti—particularly Sanga and Vimarga Gamana—provides a highly accurate classical correlate to modern portal hemodynamics and biliary obstruction. Restoring the patency of the Raktavaha Srotas requires therapies that are deeply penetrating (Sukshma) and capable of breaking down pathological accumulations (Bhedana).

9. CONCLUSION:-

The pathogenesis of hepatic disorders (Yakrit Vikara) in Ayurveda is not an acute, localized phenomenon but a profound systemic collapse involving five critical factors: Agni, Ama, Pitta, Rakta, and Srotas. The initial trigger is invariably the suppression of metabolic fire (Agni), leading to the generation of toxic Ama. This toxin specifically vitiates Ranjaka Pitta and Rakta Dhatu, culminating in severe structural and functional blockages (Srotodushti) within the liver. A profound understanding of this interconnected pathogenesis is vital for the application of rigorous, scientifically structured Ayurvedic treatments, ensuring that therapy addresses the root metabolic cause rather than merely managing end-stage structural symptoms.

THE ROLE OF PANCHAKARMA THERAPIES IN THE DETOXIFICATION AND MANAGEMENT OF HEPATIC DISORDERS: AN AYURVEDIC PERSPECTIVE.

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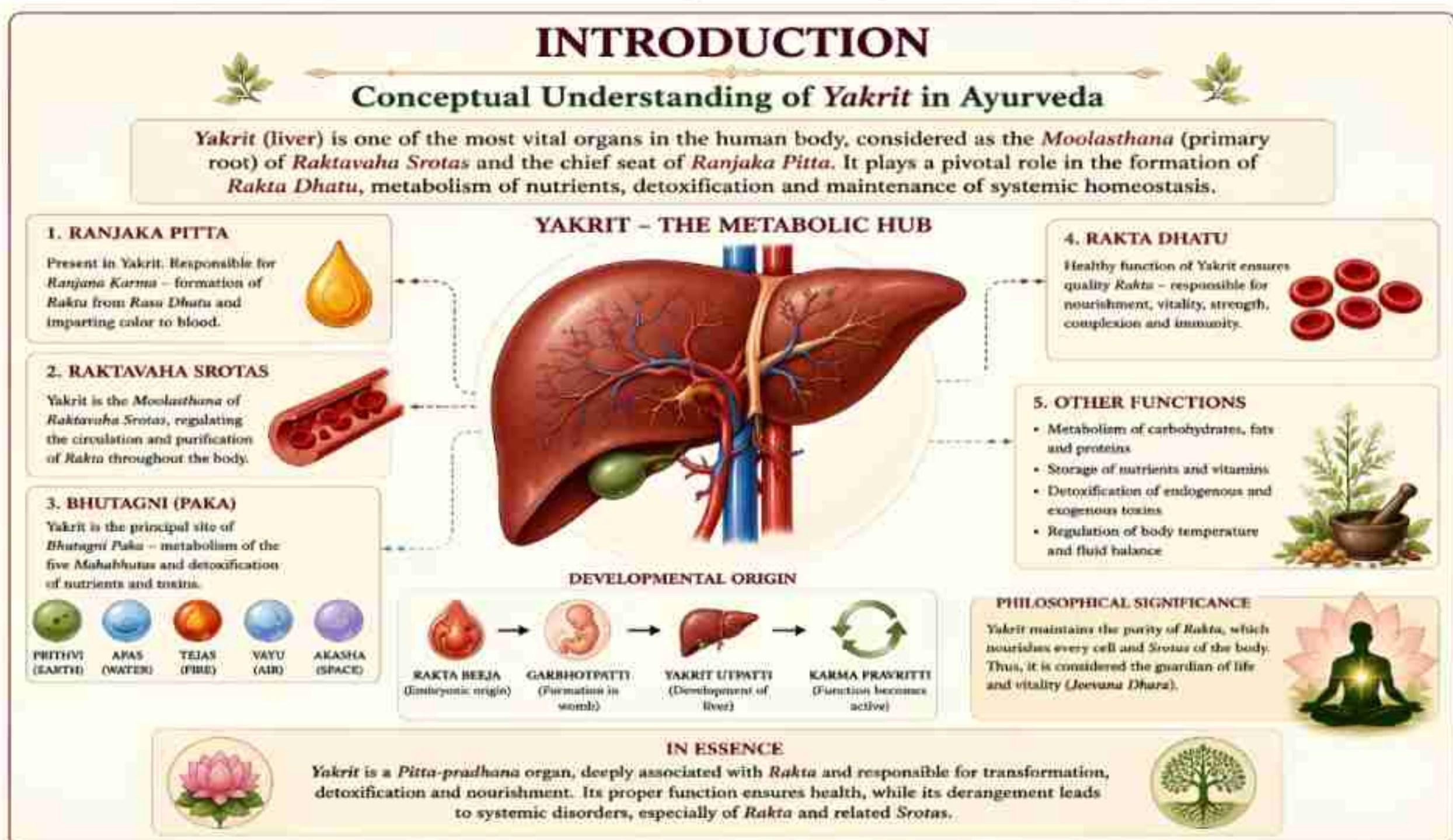
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INTRODUCTION

In Ayurveda, the liver is referred to as Yakrit. According to the Sushruta Samhita, the liver and spleen are the primary roots of the Raktavaha Srotas (blood-carrying channels) and are intricately connected to blood formation, metabolism, and detoxification. The liver is the primary seat of Ranjaka Pitta, a subtype of Pitta dosha responsible for imparting the red color to Rasa Dhatu, thereby forming Rakta Dhatu (blood).

Because of its close relationship with Pitta and Rakta, any imbalance in these components directly impacts hepatic function. Modern lifestyle choices, improper dietary habits (Mithya Ahara), and exposure to toxins lead to the accumulation of Ama (metabolic toxins) and the vitiation of Pitta, resulting in various hepatic disorders. In Ayurvedic literature, these are classified under diseases like Kamala (Jaundice), Kumbhakamala (Chronic liver disease/Cirrhosis), Yakritdalyudara (Hepatomegaly), and Haleemaka (Hepatitis).

To manage these conditions effectively, Ayurveda relies on Panchakarma—a rigorous, deeply detoxifying bio-purification system designed to eliminate morbid doshas from the cellular level, restore metabolic fire (Agni), and rejuvenate hepatic tissues.



THE AYURVEDIC PATHOPHYSIOLOGY OF HEPATIC DISORDERS

Before exploring detoxification, it is crucial to understand how hepatic disorders manifest according to Ayurvedic literature. When an individual consumes excessive hot, spicy, acidic, or incompatible foods (*Viruddha Ahara*), the Pitta dosha becomes severely aggravated. This aggravated Pitta, along with Ama, enters the Raktavaha Srotas and localizes in the liver.

This pathogenesis leads to Sroto-avarodha (obstruction of micro-channels), causing hepatic inflammation and dysfunction.

In conditions like Shakha-ashrita Kamala (obstructive jaundice), the aggravated Kapha dosha blocks the normal pathway of Pitta, forcing it into the peripheral tissues and blood. Therefore, the primary goal of treatment is to clear these obstructions, expel the vitiated Pitta and Kapha, and restore the normal functioning of Ranjaka Pitta. Shamana (palliative therapy) alone is often insufficient for chronic hepatic disorders; hence, Shodhana (Panchakarma purification) is highly advocated.

THE ROLE OF PANCHAKARMA IN HEPATIC DETOXIFICATION

Panchakarma operates systematically through three distinct phases: Purvakarma (Preparatory phase), Pradhana Karma (Main purification therapies), and Paschat Karma (Post-purification and rejuvenation).

1. PURVAKARMA (THE PREPARATORY PHASE)

Detoxification cannot occur effectively without preparing the body to release entrenched toxins from the liver tissues.

Snehana (Internal Oleation): Internal administration of medicated ghee (Snehapana) is crucial. For hepatic disorders, Tikta Rasa (bitter-tasting) herbal ghees are the gold standard. Formulations like Panchatikta Ghrita, Mahatiktaka Ghrita, and Kalyanaka Ghrita are commonly used. Bitter herbs have a natural affinity for the liver; they stimulate hepatic enzymes, dissolve lipid-soluble toxins, and pacify both Pitta and Kapha. The lipid medium of the ghee crosses cell membranes, chelating toxins (Ama) lodged deep within the hepatocytes.

Swedana (Sudation/Fomentation): Following oleation, gentle localized or full-body heat therapy is applied. Swedana dilates the micro-channels (Srotovikasana), liquefying the doshas and toxins bound by the medicated ghee, and channels them from the peripheral tissues (Shakha) back into the gastrointestinal tract (Koshtha) for elimination.

2. PRADHANA KARMA (THE MAIN PURIFICATION THERAPIES)

Once the toxins are mobilized into the digestive tract, specific Panchakarma therapies are employed based on the nature of the hepatic disorder.

A. Virechana (Therapeutic Purgation)

Virechana is the absolute treatment of choice for hepatic disorders. Classical texts state, "Tatra virechanam pittahare" (Virechana is the best therapy for subduing Pitta).

Mechanism in Liver Disorders: Virechana acts directly on the Amashaya (stomach) and Pakvashaya (intestines), which are the primary seats of Pitta. By administering purgative herbs like Trivrit (*Operculina turpethum*), Katuki (*Picrorhiza kurroa*), and Aragvadha (*Cassia fistula*), the body expels vast amounts of morbid Pitta and accumulated Ama through the anal route.

Clinical Impact: In modern terms, Virechana accelerates the enterohepatic circulation. It promotes cholagogue and choleretic actions, forcing the gallbladder and liver to flush out stagnant bile, bilirubin, and lipid-peroxidized toxins. This massively reduces the functional load on the liver, allowing hepatocytes to regenerate.

B. Vamana (Therapeutic Emesis)

While Vamana is primarily a Kapha-reducing therapy, it holds a specific role in certain types of liver diseases.

Mechanism in Liver Disorders: In the case of Ruddhapatha Kamala (obstructive jaundice), the pathway of Pitta is obstructed by aggravated Kapha. Here, classical literature recommends therapies to first clear the Kapha obstruction. Vamana is administered using herbs like Madanaphala to dislodge the Kapha, thereby clearing the bile ducts and allowing Pitta to flow naturally into the intestines.

C. Basti (Therapeutic Enema)

Basti is fundamentally a Vata-pacifying therapy, but specialized formulations can be adapted for liver diseases, particularly when complications like ascites (Jalodara) arise.

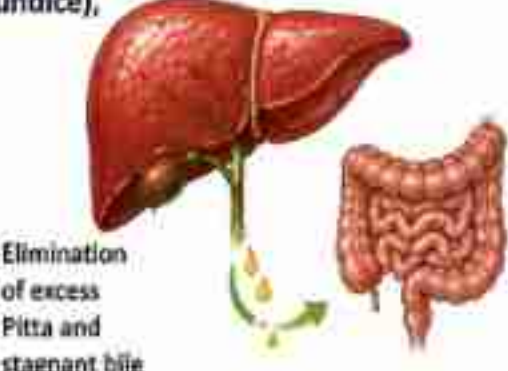
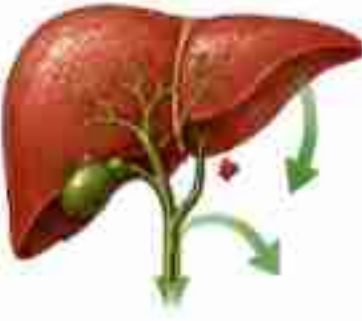
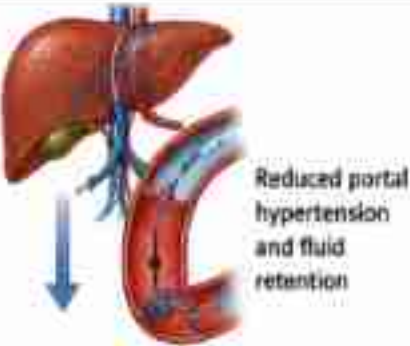
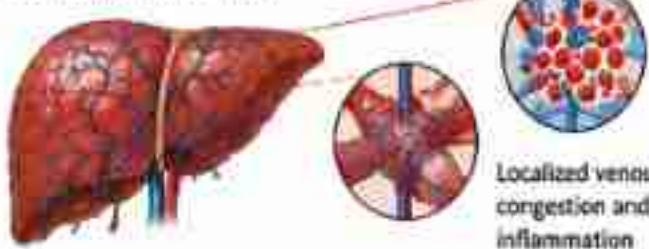
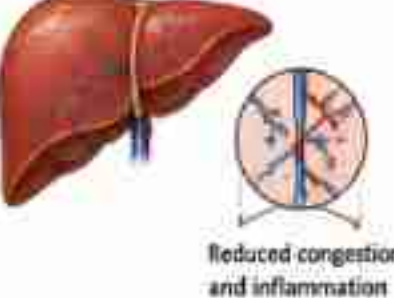
Mechanism in Liver Disorders: Chronic liver disease often leads to portal hypertension and ascites, which Ayurveda identifies as a severe vitiation of Vata and accumulation of fluid (Udara Roga). Asthapana Basti (decoction enemas) using bitter and scraping (Lekhana) herbs helps in systemic detoxification. Gomutra (cow urine) combined with specific herbs is occasionally used in Basti to drastically reduce fluid retention and stimulate liver function without depleting the patient's strength.

D. Raktamokshana (Bloodletting)

Since the liver is the root of the Raktavaha Srotas, purifying the blood is synonymous with protecting the liver.

Mechanism in Liver Disorders: In cases of severe hepatomegaly (Yakritdalyudara) or acute hepatic inflammation, localized bloodletting, particularly Jalaukavacharana (Leech therapy), is utilized. Leeches secrete hirudin and other bioactive compounds that reduce localized inflammation, improve micro-circulation within the hepatic portal system, and relieve tissue hypoxia in the liver.

SUMMARY OF PANCHAKARMA APPLICATIONS IN HEPATIC DISORDERS

Role of Panchakarma Therapies in Hepatic Disorders			
Therapy	Primary Dosha Targeted	Indication in Hepatic Disorders	Physiological Action on the Liver
VIRECHANA (Therapeutic Purgation) 	PITTA 	Kamala (Jaundice), Hepatitis, Fatty Liver  Elimination of excess Pitta and stagnant bile	• Flushes out stagnant bile • Reduces bilirubin • Eliminates hepatocellular toxins  Detoxification of hepatocytes
VAMANA (Therapeutic Emesis) 	KAPHA 	Ruddhapatha Kamala (Obstructive Jaundice)  Kapha obstruction in bile duct Cleared bile duct and restored flow of bile	• Clears bile duct obstruction • Removes Kapha blocking the path of Pitta 
BASTI (Medicated Enema) 	VATA 	Kumbhakamala (Cirrhosis), Jalodara (Ascites)  Ascites (Fluid accumulation)	• Regulates Vata • Assists in reducing portal hypertension • Helps in reducing fluid retention 
RAKTAMOKSHANA (Bloodletting Therapy) 	RAKTA & PITTA 	Hepatomegaly, Chronic Inflammation  Localized venous congestion and inflammation	• Relieves localized venous congestion • Reduces hepatic inflammation  Reduced congestion and inflammation
● PITTA – Metabolism, bile, transformation ● KAPHA – Structure, lubrication, obstruction ● VATA – Movement, circulation, regulation ● RAKTA – Blood, circulation, nourishment Panchakarma therapies act by balancing the doshas, removing toxins and restoring liver function in various hepatic disorders.			

3. PASCHAT KARMA (POST-DETOXIFICATION PHASE)

The period following Panchakarma is highly critical because the patient's digestive fire (Agni) is significantly weakened post-purification.

Samsarjana Krama (Dietary Rehabilitation): A strictly monitored, graduated diet is prescribed, beginning with light liquid gruels (Peya, Vilepi) and slowly progressing to solid foods. This prevents metabolic overload on the newly detoxified liver and reignites the Jatharagni (primary digestive fire) and Dhatvagni (tissue-level metabolism).

Shamana and Rasayana (Rejuvenation): Once normal diet is resumed, liver-protective (Yakrit-uttejaka) formulations are administered. Decoctions like Phalatrikadi Kwatha and mineral-herb formulations like Arogyavardhini Vati are highly effective. Furthermore, Rasayana (rejuvenation therapy) using herbs like Bhumyamalaki (*Phyllanthus niruri*), Kalmegha (*Andrographis paniculata*), and Guduchi (*Tinospora cordifolia*) is initiated. These herbs act as hepatoprotectants, possessing potent antioxidant properties that stimulate cellular repair and hepatocyte regeneration.

SCIENTIFIC RATIONALITY AND CONCLUSION

From a contemporary biomedical perspective, the Ayurvedic approach of utilizing Panchakarma for hepatic disorders demonstrates profound scientific rationality. Liver diseases are fundamentally inflammatory and metabolic conditions driven by oxidative stress, lipid peroxidation, and the accumulation of endotoxins.

The Purvakarma phase of utilizing bitter ghrithas acts as a lipophilic solvent, crossing biological barriers to bind with fat-soluble toxins. Virechana, the cornerstone of hepatic detoxification, acts as a powerful gastrointestinal dialysis, upregulating the excretion of bile acids, cholesterol, and bilirubin, thereby preventing their reabsorption in the terminal ileum. This directly lowers serum transaminases (AST, ALT) and eases hepatocellular stress.

In conclusion, Ayurvedic literature offers a highly sophisticated, multi-dimensional protocol for hepatic care. By moving beyond mere symptom management and focusing on deep cellular detoxification via Panchakarma, Ayurveda not only halts the progression of hepatic disorders but actively facilitates the regeneration and restoration of optimal liver function. Integrating these ancient detoxification protocols with modern diagnostics holds tremendous potential for the holistic management of global hepatic burdens.

ROLE OF AYURVEDIC FORMULATION IN THE MANAGEMENT OF FATTY LIVER DISEASE

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Abstract

Fatty Liver Disease (FLD), particularly Non-Alcoholic Fatty Liver Disease (NAFLD), is one of the most common chronic liver disorders worldwide. It is characterized by excessive accumulation of fat in liver cells and is closely associated with obesity, diabetes mellitus, dyslipidaemia, and sedentary lifestyle. Modern management primarily focuses on lifestyle modification and control of metabolic risk factors. Ayurveda offers a holistic approach through dietary regulation, lifestyle modifications, and herbal formulations that improve digestion, metabolism, and liver function. Several Ayurvedic herbs possess hepatoprotective, antioxidant, anti-inflammatory, and lipid-lowering properties that may help in the management of fatty liver disease. This article reviews the role of Ayurvedic herbal formulations in the prevention and treatment of fatty liver disease.

INTRODUCTION

The liver is a vital organ responsible for metabolism, detoxification, storage, and synthesis of various substances. Fatty Liver Disease is characterized by the deposition of triglycerides within hepatocytes. If left untreated, it may progress to steatohepatitis, fibrosis, cirrhosis, and hepatocellular carcinoma.

Ayurvedic texts do not directly discuss liver disease, which is caused by poor lipid metabolism due to a lack of exercise and unhealthy eating habits. In Ayurveda, liver disorders and their management are described in vast and scattered detail throughout the ancient texts, and these are dealt with under Udara Roga or the abdominal disorders. According to various Ayurvedic literature, Udara Roga is eight in number and the symptoms of Yakritodara, which Lakshana are described the same as Pleehodara resemble a non-alcoholic fatty liver disease. Also, Sushruta, first time, gave the specific name to the Yakrit Vridhi as Yakrit Dalyudara.

The symptoms and signs of Yakritodara are the same as those of Pleehodara, as both the organs are Mula of Rakta Vaha Srotas, and the liver and spleen are said to have similar functions. Also, Non-alcoholic fatty liver disease (NAFLD) unquestionably falls under the category of Santarpanajanya Vyadhi, as defined by Acharya Charaka in the Charaka Samhita.

Nidana

Etiological components of NAFLD can be explained under, *Aharaj hetu* (Dietary habits), *Viharaj hetu* (lifestyle factor) and *Manasika hetu* (Psychological Factors)

1. Aharaja Nidana (Dietary Factors)

- Excessive intake of *Guru Ahara* (heavy-to-digest foods)
- *Snigdha Ahara* (oily, fatty, fried foods)
- Excessive consumption of *Madhura Rasa* (sweet foods and beverages)
- Overeating (*Ati Bhojana*)
- Frequent consumption of processed and junk foods
- Irregular eating habits and eating before digestion of the previous meal (*Adhyashana*)

2. Viharaja Nidana (Lifestyle Factors)

- Sedentary lifestyle
- Excessive sleeping, especially daytime sleep (*Divaswapna*)
- Lack of physical activity
- Prolonged sitting and reduced energy expenditure

3. Manasika Nidana (Psychological Factors)

- Chronic stress
- Anxiety
- Mental strain and emotional disturbances affecting *Agni* and metabolism

Clinical Manifestation

In Ayurveda, Non-Alcoholic Fatty Liver Disease (NAFLD) is not described as a distinct disease entity; however, its clinical manifestations can be understood through the concepts of *Agnimandya*, *Ama* formation, *Kapha-Meda Dushti*, and *Yakrit Vikara* (liver disorders). Patients commonly present with *Aruchi* (loss of appetite), *Ajeerna* (indigestion), *Gaurava* (a feeling of heaviness in the body), *Alasya* (lethargy), *Klama* (fatigue), and *Utsahahani* (loss of enthusiasm). Gastrointestinal symptoms such as *Adhmana* (abdominal bloating), *Hrillasa* (nausea), and irregular bowel habits may also be observed. As the disease progresses, there may be *Dakshina Parshva Shoola* (pain or discomfort in the right upper abdomen), *Udara Gaurava* (abdominal heaviness), and *Yakrit Vriddhi* (hepatomegaly). Since NAFLD is closely associated with *Kapha* and *Meda Dhatu* vitiation, patients often exhibit features such as *Sthaulya* (obesity), excessive sleep, reduced physical endurance, and metabolic disturbances. In advanced stages, symptoms resembling chronic liver dysfunction, including *Daurbalya* (weakness), *Panduta* (pallor), and *Kamala*-like features (jaundice), may develop. Thus, the clinical picture of NAFLD in *Ayurveda* reflects a combination of digestive impairment, metabolic dysfunction, *Ama* accumulation, and liver involvement.

MANAGEMENT

Ayurveda offers promising potential for managing this condition. Since fatty infiltration is a type of *Santarpanajanya Vyadhi*, Apatharpana treatment is advised, focusing on avoiding triggers and disrupting the disease's pathogenesis. The treatment aims to correct *Agni* (digestive fire), digest *Ama* (toxins), alleviate *Kapha*, and perform *Lekhana* (scraping) of accumulated *Medas* (fat).

- **Nidana Parivarjana:** Avoiding *Shleshma Medokara Ahara* (*Kapha*-increasing diets) can help reduce NAFLD incidence.
- **Shodhana:** *Virechana* (purgation) is ideal, targeting the *Yakrit* (liver) as the disease's root. *Rooksha Virechana* with *Choornas* (powders) and *Kashayas* (decoctions) is recommended to cleanse excessive *Dosha* and *Srothorodha*.
- **Samsamana:** In the initial stage of *Amavastha*, treatments such as *Pachana* (digestion), *Deepana* (stimulating digestion), and *Rookshana* (drying) should be applied to pacify *Kapha* and *Ama*. Utilizing *Katu* (pungent) and *Tikta* (bitter) *Rasa* can also be beneficial, as these have *Sneha-Meda-Kleda-Shoshana* properties. Using *Lekhaneeya* drugs can effectively eliminate *Sanchita Ama* and excess fat from liver cells.

AYURVEDIC FORMULATIONS

S.No	Kalpana	Formulation
1.	Guggulu	<i>Triphala guggulu</i>
2.	Kashaya	<i>Patolkatukrohinyadi kashayam, Purarnavadi Kashaya,</i>
3.	Vati	<i>Arogyavardhini vati, Rohitaka vati</i>
4.	Churna	<i>Rohitaka churna, bhumyamalaki churna</i>
5.	Rasa/Lauh	<i>Rasaraj rasa, Yakritpleehari lauh, yakridari lauha</i>
6.	Ekala Aushadha	<i>Kutki, Kalmegha, kumari, rohitaka, bhumyamalaki</i>

- **Bhumyamalaki (Phyllanthus niruri)**

Bhumyamalaki is widely used for liver disorders. It exhibits hepatoprotective, antioxidant, and anti-inflammatory activities. It helps improve liver function and protects hepatocytes from damage.

- **Guduchi (Tinospora cordifolia)**

Guduchi is a potent *Rasayana* drug with immunomodulatory and hepatoprotective properties. It improves metabolism and reduces oxidative stress associated with fatty liver disease.

- **Kalmegha (Andrographis paniculata)**

Kalmegha possesses liver-protective and detoxifying actions. It stimulates bile secretion and helps in improving liver function.

- **Kutki (Picrorhiza kurroa)**

Kutki is considered one of the best herbs for liver disorders. It stimulates bile flow, improves digestion, and exhibits significant hepatoprotective activity.

- **Punarnava (Boerhavia diffusa)**

Punarnava helps reduce inflammation, improves liver function, and prevents fluid retention. It is commonly used in chronic liver diseases.

- **Triphala**

Triphala aids digestion, enhances metabolism, and promotes detoxification. Its antioxidant properties help reduce fat accumulation in the liver.

CONCLUSION

Ayurvedic formulations offer a promising, holistic, and complementary approach in the management of fatty liver disease. When combined with appropriate diet and lifestyle interventions, they may contribute significantly to improving liver health and preventing disease progression.

Preventive Role of Dinacharya, Ritucharya, Pathya-Apathya and Stress Management in Maintaining Hepatic Health: An Ayurvedic Perspective



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ABSTRACT

The liver (Yakrit) is one of the most vital organs of the human body, responsible for metabolism, digestion, detoxification, nutrient storage and maintenance of physiological homeostasis. Ayurveda emphasizes prevention through Dinacharya (daily regimen), Ritucharya (seasonal regimen), Pathya-Apathya (wholesome and unwholesome diet and lifestyle) and stress management. These principles help maintain Agni, prevent Ama formation, balance Doshas and preserve hepatic health.

INTRODUCTION

Ayurveda primarily focuses on preservation of health and prevention of disease. Acharya Charaka states:

“स्वस्थस्य स्वास्थ्य रक्षणं आतुरस्य विकार प्रशमनं च।”

This principle forms the foundation of Ayurvedic preventive medicine. In Ayurveda, the liver is described as Yakrit and is closely associated with Ranjaka Pitta, which plays a vital role in Rakta Dhatu formation and metabolism.

AYURVEDIC UNDERSTANDING OF HEPATIC HEALTH

According to Ayurveda, balanced Agni is essential for proper metabolism.

“रोगाः सर्वेऽपि मन्देऽग्नौ।”

When Agni becomes weak, Ama is formed. Ama obstructs physiological channels and disturbs Dosha balance, ultimately affecting various organs including Yakrit. Therefore, maintenance of healthy Agni and balanced Pitta is essential for preserving hepatic function.

ROLE OF DINACHARYA IN MAINTAINING HEPATIC HEALTH

Dinacharya refers to an ideal daily routine that aligns the body with natural biological rhythms.

“ब्रह्मो मुहूर्त उत्तिष्ठेत् स्वस्थो रक्षार्थमायुषः।”

Early morning awakening improves metabolism, supports circadian rhythm and enhances natural detoxification processes. Proper elimination of natural urges prevents accumulation of toxins and supports digestive health.

Daily tongue scraping, oral hygiene, moderate exercise (Vyayama), Abhyanga (oil massage), timely meals and proper sleep contribute significantly to hepatic wellness. Exercise improves circulation, enhances insulin sensitivity and reduces the risk of fatty liver disease. Abhyanga balances Vata and promotes systemic harmony.

ROLE OF RITUCHARYA IN HEPATIC PROTECTION

Ritucharya refers to seasonal adaptation of diet and lifestyle.

“नित्यं हिताहारविहारसेवी समीक्ष्यकारी विषयेष्वसक्तः।”

Seasonal changes influence Doshas and digestive capacity. During Grishma Ritu, cooling foods, seasonal fruits and adequate hydration help prevent Pitta aggravation. During Varsha Ritu, warm water, light digestible food and digestive spices support Agni and reduce Ama formation. During Sharad Ritu, bitter foods and Pitta-pacifying measures help maintain healthy liver function.

IMPORTANCE OF PATHYA-APATHYA IN HEPATIC HEALTH

Dietary discipline is one of the pillars of Ayurvedic prevention.

“पथ्ये सति गदार्तस्य किमौषधनिषेवणैः।
पथ्येऽसति गदार्तस्य किमौषधनिषेवणैः॥”

Freshly prepared food, seasonal fruits, vegetables, whole grains, mung beans, adequate hydration and moderate use of cow's ghee support hepatic health. Bitter foods such as neem and bitter gourd help maintain Pitta balance.

Unwholesome practices such as excessive fried foods, junk foods, alcohol consumption, smoking, overeating, irregular meal timings and sedentary lifestyle impair Agni, increase Ama formation and contribute to hepatic disorders.

STRESS MANAGEMENT AND HEPATIC HEALTH

Mental well-being is inseparable from physical health. Ayurveda recognizes Prajnaparadha as a major cause of disease.

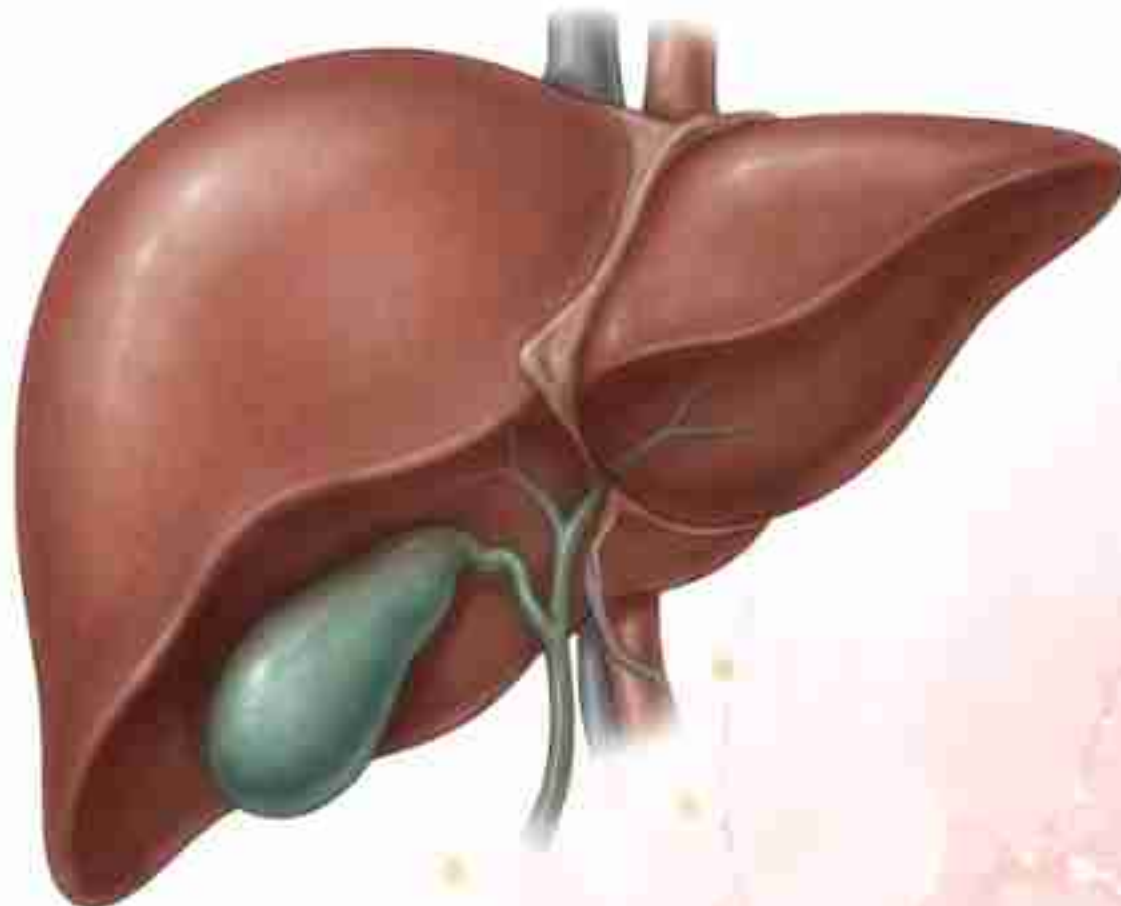
“धीधृतिस्मृतिविभ्रष्टः कर्म यत्कुरुतेऽशुभम्।
प्रज्ञापराधं तं विद्यात् सर्वदोषप्रकोपणम्॥”

Chronic stress disturbs digestion, alters hormonal balance and aggravates Doshas. Since Yakrit is closely associated with Pitta, prolonged psychological stress may negatively affect liver function.

Meditation (Dhyana), Yoga, Pranayama and Satvavajaya Chikitsa help reduce stress, improve emotional stability and support healthy hepatic metabolism.

CONCLUSION

Ayurveda views liver health as the harmonious functioning of Agni, Doshas, Dhatus and Manas. The principles of Dinacharya, Ritucharya, Pathya-Apathya and stress management provide a practical and sustainable framework for maintaining hepatic health and preventing lifestyle-related liver disorders. These timeless Ayurvedic principles remain highly relevant in the modern era and offer an effective approach to health promotion and disease prevention.





YAKRIT PLEEHA VIKARA:

UNDERSTANDING HEPATIC AND SPLENIC DISORDERS THROUGH AYURVEDA

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INTRODUCTION

Acharya Charaka has described Yakrit and Pleeha as the Moola Sthana of Raktavaha Srotas, emphasizing their close association with Rakta Dhatu and its physiological functions.

“यकृत्प्लीहानौ रक्तवहस्रोतसां मूलम्।”

(Charak Samhita, Vimana Sthana)

Yakrit (liver) and Pleeha (spleen) occupy an important position in Ayurvedic physiology. These organs are intimately associated with the formation, transformation, and maintenance of Rakta Dhatu. Classical Ayurvedic literature recognizes a close functional relationship between them and describes their disorders within a common pathological framework.

The increasing prevalence of fatty liver disease, hepatitis, hepatomegaly, splenomegaly and cirrhosis has drawn renewed attention towards traditional concepts that explain hepatic and splenic dysfunction through disturbances of Agni, Dosha and Srotas.

Ayurvedic Understanding & Samprapti

According to Ayurveda, impairment of Agni is the fundamental event in the pathogenesis of many systemic disorders. Excessive consumption of Guru, Snigdha, Abhishyandi and Vidahi Ahara leads to Agnimandya and subsequent formation of Ama.

This Ama combines with vitiated Doshas primarily Pitta and Kapha and causes obstruction within the Raktavaha Srotas. The resulting Srotorodha disrupts normal physiological processes and affects the functional integrity of Yakrit and Pleeha. Persistent pathology may eventually manifest as Yakrit Vriddhi and Pleeha Vriddhi.

Classical texts describe remarkable similarities in the pathogenesis and management of Yakritodara and Pleehodara, reflecting the interconnected nature of hepatic and splenic disorders.

Clinical Features

Common manifestations of Yakrit Pleeha Vikara include:

- Agnimandya (poor digestion)
- Aruchi (loss of appetite)
- Daurbalya (weakness)
- Udaragaurava (abdominal heaviness)
- Haridra Netra and Mutra (yellowish discoloration)
- Nausea and fatigue
- Pain or discomfort in the right hypochondrium
- Abdominal distension in advanced stages





Correlation with Modern Disorders

Different Dosha predominance may be correlated with varying hepatic conditions.

- Vataja presentations, degenerative and congestive changes
- Pittaja presentations, inflammatory conditions such as hepatitis
- Kaphaja presentations, fatty liver disease and metabolic disorders

Advanced and untreated disease may ultimately progress towards Jalodara, which bears resemblance to ascites described in contemporary medicine.

Important Ayurvedic Drugs

- **Kutki (Picrorhiza kurroa):** Kutki is one of the most widely used drugs in hepatic disorders. Owing to its Deepana, Pachana and Pittashamaka properties, it is frequently employed in the management of Kamala and other Yakrit Vikara.
- **Sharpunkha (Tephrosia purpurea):** Sharpunkha is traditionally indicated in hepatosplenic disorders and has been extensively described for conditions associated with enlargement of the spleen.
- **Rohitaka (Aphanamixis polystachya):** Rohitaka occupies an important place in the management of Pleecha disorders. Classical formulations containing Rohitaka continue to be used in clinical practice.

Other Useful Drugs

- • Bhumyamalaki
- • Kalmegha
- • Guduchi
- • Punarnava
- • Bhringaraja

Classical Formulations

Several Ayurvedic formulations are employed according to Dosha predominance, disease stage and patient factors.

- • Arogyavardhini Vati
- • Punarnavadi Mandura
- • Rohitakarishtha
- • Kumaryasava
- • Phalatrikadi Kwatha

Among these, Arogyavardhini Vati is frequently utilized in metabolic and hepatic disorders owing to its action on Agni and Meda metabolism.

Panchakarma and Lifestyle Management

Panchakarma procedures such as Virechana and Basti are described for selected patients after appropriate assessment. These therapies aim to eliminate vitiated Doshas and restore physiological balance.

Equally important are dietary and lifestyle measures:

- • Avoid oily, fried and processed foods
- • Restrict alcohol consumption and smoking
- • Maintain regular sleep habits
- • Consume light and easily digestible food
- • Prefer warm water and fresh fruits
- • Practice regular yoga and physical activity

Pathya Ahara remains an essential component of both treatment and prevention.



Integrative Perspective

The rising incidence of metabolic dysfunction associated with steatotic liver disease (MASLD), previously known as NAFLD, has renewed interest in Ayurvedic concepts of Agnimandya, Ama formation and Medovaha Srotodushti. These concepts provide a broader understanding of metabolic dysfunction and its impact on hepatic health.

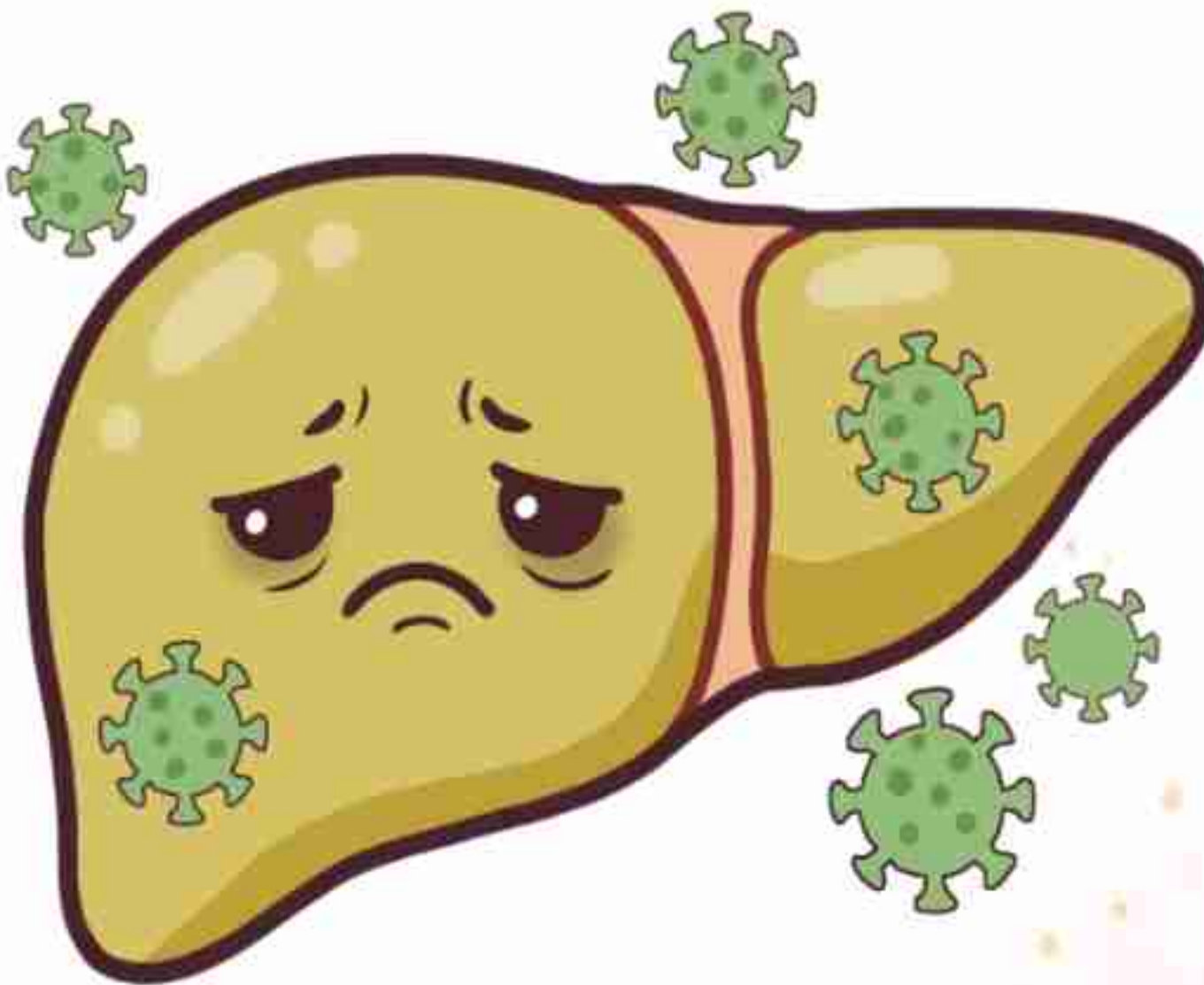
Emerging experimental and clinical studies have reported hepatoprotective, antioxidant and anti-inflammatory activities of Ayurvedic medicinal plants such as Kutki, Kalmegha and Bhumyamalaki. Continued scientific evaluation may further strengthen the evidence base for integrative approaches in liver disorders.

Conclusion

Yakrit Pleea Vikara constitute an important group of disorders described in Ayurveda with significant relevance in contemporary clinical practice. The Ayurvedic understanding of disease progression through Agnimandya, Ama formation, Dosha vitiation and Srotorodha provides a comprehensive framework for understanding hepatic and splenic pathology. Therapeutic approaches based on Nidana Parivarjana, Pathya Ahara, herbal interventions and Panchakarma aim to restore physiological balance and support organ function. The growing burden of metabolic and lifestyle associated disorders highlights the continuing relevance of these principles in preventive healthcare and supportive clinical management.

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Role of Virechana Karma in Detoxification and Management of Hepatic Disorders

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Abstract

Hepatic disorders, including non-alcoholic fatty liver disease (NAFLD), hepatitis, alcoholic liver disease, and drug-induced liver injury, represent a significant global health challenge. The liver plays a vital role in metabolism, detoxification, digestion, and maintenance of physiological homeostasis. Ayurveda tributes many liver disorders to the aggravation of Pitta Dosha, Rakta Dushti, impaired Agni, and accumulation of Ama. Virechana Karma, one of the principal Panchakarma therapies, is specifically indicated for Pitta-dominant disorders and is widely employed in the management of hepatic diseases. This review examines the role of Virechana Karma in detoxification and liver disease management based on classical Ayurvedic literature and contemporary scientific evidence. Available studies suggest that Virechana may improve liver function, alleviate symptoms, and enhance overall well-being when combined with appropriate dietary and lifestyle interventions. Further large-scale clinical studies are needed to establish its efficacy and mechanisms of action.

Keywords: Virechana Karma, Panchakarma, hepatic disorders, liver disease, detoxification, Ayurveda, fatty liver disease.

Introduction

The liver is one of the most important organs of the human body, performing essential functions such as metabolism, detoxification, bile production, nutrient storage, and regulation of biochemical processes. Rapid urbanization, sedentary lifestyles, unhealthy dietary habits, alcohol consumption, and exposure to environmental toxins have contributed to the increasing prevalence of hepatic disorders worldwide.



Panchakarma, the classical bio-purification therapy of Ayurveda, aims to eliminate vitiated Doshas and restore physiological balance. Among its five principal procedures, Virechana Karma (therapeutic purgation) is considered the most effective treatment for Pitta-related disorders. Since the liver is regarded as a primary seat of Pitta, Virechana is commonly recommended for hepatic diseases. This review aims to evaluate the role of Virechana Karma in detoxification and its therapeutic significance in the management of hepatic disorders.

Materials and Methods

This study is a narrative review based on information collected from classical Ayurvedic texts and contemporary scientific literature related to Virechana Karma and hepatic disorders.

Primary Ayurvedic sources included Charaka Samhita, Sushruta Samhita, and Ashtanga Hridaya.

Secondary sources comprised peer-reviewed research articles, review papers, and clinical studies addressing *Panchakarma* therapies, liver diseases, and integrative approaches to hepatic health.

The review focused on the following aspects:

1. *Ayurvedic* understanding of liver pathology.
2. Principles and procedures of *Virechana Karma*.
3. Mechanisms of detoxification associated with *Virechana Karma*.
4. Clinical applications in hepatic disorders.
5. Reported therapeutic outcomes and limitations.

The collected information was critically analyzed and synthesized to assess the potential role of *Virechana Karma* in liver disease management.

Results

Ayurvedic Perspective of Hepatic Disorders

Ayurveda describes liver disorders as manifestations of aggravated Pitta Dosha, impaired Agni, Rakta Dushti, and accumulation of Ama. Excessive intake of spicy, oily, fermented foods, alcohol consumption, mental stress, and unhealthy lifestyle practices contribute to Dosha imbalance and liver dysfunction. Conditions such as Kamala, Yakrit Vikara, and Pandu exhibit symptoms comparable to jaundice, fatty liver disease, hepatitis, and other hepatic disorders recognized in modern medicine.

Role of Virechana Karma in Detoxification

Virechana Karma is a major Shodhana (purification) therapy specifically indicated for Pitta-related disorders. The procedure consists of three stages: Purva Karma (preparatory measures), Pradhana Karma (main purgation procedure), and Paschat Karma (post-therapy care).

Purva Karma includes Snehana (oleation) and Swedana (sudation), which facilitate the mobilization of accumulated toxins and vitiated Doshas from peripheral tissues into the gastrointestinal tract. During Pradhana Karma, therapeutic purgatives such as Trivrit (*Operculina turpethum*), Avipattikara Churna, and Eranda Taila (castor oil) are administered to expel aggravated Pitta and Ama through controlled purgation. Paschat Karma involves dietary regulation and gradual restoration of digestive strength.

As the liver is considered a principal seat of Pitta, Virechana aids in eliminating excess Pitta and metabolic waste products, thereby restoring physiological balance. The therapy is believed to improve digestive function, regulate metabolism, and support hepatic health.

Clinical Outcomes

Several studies and clinical observations have reported positive outcomes following *Virechana* therapy in patients with hepatic disorders. Commonly observed benefits include:

- Reduction in serum liver enzyme levels such as alanine aminotransferase and aspartate aminotransferase.- Decrease in elevated bilirubin levels.
- Improvement in appetite and digestive efficiency.
- Reduction in abdominal discomfort, heaviness, fatigue, inflammatory responses and oxidative stress. - Enhancement of bowel regularity and gastrointestinal function.
- Improvement in overall quality of life and well-being.

Clinical evidence also indicates beneficial effects in conditions such as jaundice, fatty liver disease, hyperacidity, metabolic syndrome, and chronic liver dysfunction. Integrating *Virechana* with hepatoprotective Ayurvedic formulations such as *Bhumyamalaki* (*Phyllanthus niruri*), *Kutki* (*Picrorhizakurroa*), *Kalmegha* (*Andrographis paniculata*), and *Punarnava* (*Boerhavia diffusa*) has demonstrated encouraging results in supporting liver function.



Discussion

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Despite promising observations, several limitations remain. Most available studies involve small sample sizes, heterogeneous treatment protocols, and limited methodological rigor. Standardized clinical trials with objective outcome measures, including liver function tests, imaging studies, inflammatory markers, and long-term follow-up, are required to establish definitive evidence.

An integrative healthcare approach combining *Virechana Karma* with conventional medical management may offer additional benefits, particularly in early-stage hepatic disorders and lifestyle-related liver diseases. However, treatment should be administered under the supervision of qualified Ayurvedic practitioners, especially in individuals with advanced liver disease or significant systemic complications.

Conclusion

Virechana Karma is a fundamental *Panchakarma* procedure aimed at eliminating aggravated *Pitta Dosha* and accumulated *Ama* from the body. Owing to the close association of the liver with *Pitta*, *Virechana* plays an important role in the *Ayurvedic* management of hepatic disorders. Available evidence suggests that this therapy may improve liver function, reduce clinical symptoms, support metabolic regulation, and enhance quality of life. Although current findings are encouraging, further well-designed clinical studies are necessary to validate its efficacy, safety, and mechanisms of action. Integration of *Virechana Karma* with modern healthcare strategies may provide a comprehensive approach for the prevention and management of liver diseases.

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Herbal medicine: A Guide for Liver Diseases

An Ayurvedic Perspective

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Abstract

Liver diseases represent a major global health burden due to their increasing association with lifestyle disorders, infections, alcohol consumption, and metabolic imbalances. In Ayurveda, liver function is primarily governed by Yakrit, which is closely associated with Ranjaka Pitta and Raktavaha Srotas. Disturbance in these functional units leads to pathological conditions such as Kamala, Pandu, and Yakrit Vriddhi. The disease process involves impairment of Agni, accumulation of Ama, vitiation of Pitta and Rakta, and obstruction of bodily channels (Srotorodha). Conventional management often focuses on symptomatic relief, whereas Ayurveda emphasizes restoration of physiological balance through Samprapti Vighatana. Herbal medicines such as Kutki, Apamarga, Daruharidra, Kakamachi, Parijata, and Kalmegha possess significant hepatoprotective, antioxidant, anti-inflammatory, and detoxifying properties. These drugs not only support hepatic regeneration but also act at different stages of pathogenesis by correcting Agni, eliminating Ama, pacifying aggravated Pitta, purifying Rakta, and clearing obstructed Srotas. This integrated action makes Ayurvedic herbal therapy a comprehensive and preventive approach in the management of liver disorders.

Keywords: Yakrit, Liver diseases, Samprapti Vighatana, Kutki, Kalmegha, Pitta, Raktavaha Srotas, Hepatoprotection

INTRODUCTION

The liver (Yakrit) is one of the most vital organs of the human body, responsible for metabolism, detoxification, bile formation, and regulation of biochemical homeostasis. In Ayurvedic physiology, Yakrit is considered the principal site of Ranjaka Pitta, which plays a crucial role in the formation and coloration of Rakta Dhatu. Proper functioning of Yakrit and Ranjaka Pitta is essential for maintaining healthy digestion, nutrient assimilation, and systemic balance.

With the rapid change in lifestyle patterns, increased consumption of processed foods, alcohol intake, stress, and exposure to environmental toxins, the incidence of liver disorders has significantly increased worldwide. Conditions such as fatty liver disease, hepatitis, and jaundice are becoming increasingly common. In Ayurveda, these disorders are understood as the result of Nidana Sevana leading to Agnimandya, Pitta Prakopa, Rakta Dushti, and Srotorodha, ultimately disturbing the normal function of Yakrit.

Unlike symptomatic approaches in modern medicine, Ayurveda focuses on addressing the root cause of disease through restoration of Agni and elimination of Dosha imbalance. Herbal medicines play a central role in this approach due to their Rasayana (rejuvenating), Deepana (digestive stimulant), Pachana (metabolic corrective), and Yakrit-Rakshaka (hepatoprotective) properties. Drugs such as Kutki, Kalmegha, Daruharidra, Apamarga, Kakamachi, and Parijata are widely used in liver disorders for their ability to protect hepatocytes, enhance detoxification, and interrupt the pathological process at multiple levels.

Thus, Ayurvedic herbal medicine offers a holistic, preventive, and restorative approach to liver diseases by not only improving liver function but also correcting the underlying pathophysiological mechanisms.

Liver Disorders in Ayurveda

Nidana (Etiological Factors)

Aharaja Nidana

- Excessive consumption of spicy, sour, salty, oily foods
- Viruddha Ahara (incompatible foods)
- Excessive alcohol intake
- Contaminated food and water

Viharaja Nidana

- Irregular sleep patterns
- Night awakening (Ratri Jagarana)
- Day sleeping (Divaswapna)
- Sedentary lifestyle

Manasika Nidana

- Stress
- Anxiety
- Anger (Krodha)

Agantuja Nidana

- Viral infections
- Toxins and poisonous substances
- Environmental pollutants

These factors aggravate Pitta Dosha and vitiate Rakta, leading to dysfunction of Yakrit and Raktavaha Srotas.

Lakshana (Clinical Features)

The common symptoms of liver disorders include:

- Daurbalya (weakness)
- Aruchi (loss of appetite)
- Agnimandya (indigestion)
- Aalasya (fatigue)
- Daha (burning sensation)
- Trishna (excessive thirst)

Features of Kamala (Jaundice)

- Yellow discoloration of eyes
- Yellow discoloration of skin
- Yellow urine
- Yellow nails
- Loss of appetite
- Weakness

Advanced Symptoms

- Hepatomegaly (Yakrit Vriddhi)
- Ascites (Udara Vriddhi)
- Edema (Shotha)
- Pallor (Pandu)

Samprapti (Pathogenesis)

The pathogenesis of liver disorders can be explained as follows:

1. Continuous exposure to Nidana causes Pitta Prakopa.
2. Aggravated Pitta affects Ranjaka Pitta located in Yakrit and Pleeaha.
3. Agnimandya develops, impairing metabolism.
4. Rakta Dhatu becomes vitiated.
5. Srotorodha occurs in Raktavaha Srotas.
6. Accumulation of Doshas manifests as Kamala, Pandu, and Yakrit Vriddhi.
7. Chronic pathology may lead to severe hepatic dysfunction.

Samprapti Ghataka

- Dosha: Pitta predominant
- Dushya: Rakta, Rasa, Mamsa
- Agni: Jatharagni and Dhatvagni Mandya
- Srotas: Raktavaha Srotas
- Udbhava Sthana: Amashaya
- Adhisthana: Yakrit and Pleea

Herbal Medicines Used in Liver Diseases

1. Kutki (*Picrorhiza kurroa*)

Ayurvedic Properties

- Rasa: Tikta
- Guna: Laghu, Ruksha
- Virya: Sheeta
- Vipaka: Katu
- Dosha Karma: Kapha-Pitta Shamaka

Mechanism of Action

Kutki is regarded as one of the most potent hepatoprotective herbs in Ayurveda. It contains picrosides and kutkoside, which possess antioxidant and anti-inflammatory activities. These compounds protect hepatocytes against toxic damage, reduce oxidative stress, improve bile secretion, and support regeneration of liver tissue.

Samprapti Vighatana

Kutki acts on Pitta Prakopa, Rakta Dushti, Agnimandya, and Srotorodha. Its Tikta Rasa and Sheeta Virya pacify Pitta, while Deepana-Pachana improves Agni and prevents Ama formation. Mild Rechana action removes excess Pitta, thereby breaking the disease cycle at multiple levels

Therapeutic Uses

- Kamala
- Fatty Liver Disease
- Hepatitis
- Hepatomegaly
- Pitta disorders

2. Apamarga (*Achyranthes aspera*)

Ayurvedic Properties

- Rasa: Katu, Tikta
- Guna: Laghu, Ruksha
- Virya: Ushna
- Vipaka: Katu

Mechanism of Action

Apamarga acts primarily through Deepana and Pachana properties. It improves digestion, removes Ama, supports detoxification pathways, and reduces metabolic burden on the liver. Its antioxidant activity helps protect tissues from oxidative injury.

Samprapti Vighatana

Acts mainly on **Agnimandya and Ama formation**. It removes Kapha obstruction, clears Srotas, and restores metabolic balance, thereby preventing further hepatic damage.

Therapeutic Uses

- Agnimandya
- Hepatic congestion
- Metabolic disorders
- Kapha-associated liver dysfunction

3. Daruharidra (*Berberis aristata*)

Ayurvedic Properties

- Rasa: Tikta, Kashaya
- Guna: Laghu, Ruksha
- Virya: Ushna
- Vipaka: Katu

Mechanism of Action

Daruharidra contains berberine, a bioactive alkaloid with proven antioxidant and anti-inflammatory activities. It protects hepatocytes, regulates lipid metabolism, reduces inflammation, and supports normal liver function.

Samprapti Vighatana

Breaks **Pitta and Rakta Dushti**. It acts as Raktashodhaka and Pittahara, reducing inflammation and preventing progression of Yakrit Shotha.

Therapeutic Uses

- Kamala
- Fatty liver
- Hepatic inflammation
- Rakta Dushti

4. Kakamachi (*Solanum nigrum*)

Ayurvedic Properties

- Rasa: Tikta
- Guna: Laghu, Snigdha
- Virya: Anushna-Sheeta
- Vipaka: Katu

Mechanism of Action

Kakamachi possesses hepatoprotective, antioxidant, and anti-inflammatory activities. It protects liver cells against toxic injury and promotes regeneration of damaged tissues. It is traditionally indicated in Yakrit and Pleeha disorders.

Samprapti Vighatana

Acts on **Pitta Dushti and Dhatukshaya**. Its Rasayana effect restores damaged liver tissue and improves Ranjaka Pitta function in chronic disease.

Therapeutic Uses

- Kamala
- Hepatomegaly
- Chronic liver disease
- Pitta-Rakta disorders

5. Parijata (*Nyctanthes arbor-tristis*)

Ayurvedic Properties

- Rasa: Tikta, Kashaya
- Guna: Laghu, Ruksha
- Virya: Ushna
- Vipaka: Katu

Mechanism of Action

Parijata exhibits antioxidant and anti-inflammatory properties. It reduces Ama, supports metabolism, and helps alleviate inflammatory processes associated with liver dysfunction.

Samprapti Vighatana

Breaks **Ama and Srotorodha**. It improves channel patency and reduces inflammatory processes, restoring liver function.

Therapeutic Uses

- Chronic inflammatory conditions
- Fever associated with liver disorders
- Metabolic disturbances

6. Kalmegha (*Andrographis paniculata*)

Ayurvedic Properties

- Rasa: Tikta
- Guna: Laghu, Ruksha
- Virya: Sheeta
- Vipaka: Katu

Mechanism of Action

Kalmegha contains andrographolide, a diterpenoid lactone known for potent hepatoprotective activity. It reduces oxidative stress, inhibits inflammatory cytokines, protects hepatocytes, and prevents fibrosis in chronic liver diseases.

Samprapti Vighatana

Acts on **Pitta Prakopa, Rakta Dushti, and Yakrit Shotha**. It protects hepatocytes, prevents fibrosis, and restores liver integrity, thereby arresting disease progression.

Therapeutic Uses

- Viral hepatitis
- Kamala
- Fatty liver disease
- Chronic liver disorders
- Hepatic inflammation

Comparative Hepatoprotective Actions

Herb	Main Ayurvedic Action	Hepatic Mechanism
Kutki	Pittahara, Yakritottejaka	Antioxidant, hepatocyte regeneration
Apamarga	Deepana, Pachana	Detoxification and metabolic correction
Daruharidra	Raktaprasadana	Anti-inflammatory and antioxidant
Kakamachi	Pittahara, Rasayana	Hepatocyte protection
Parijata	Ama-Pachana	Anti-inflammatory activity
Kalmegha	Yakrit-Rakshaka	Antioxidant, antifibrotic, hepatoprotective

Discussion

The increasing incidence of liver diseases has highlighted the need for safe and effective therapeutic interventions. Ayurvedic herbs provide a multidimensional approach to liver care by correcting Agni, removing Ama, balancing Doshas, and protecting hepatic tissues. Modern pharmacological research supports these traditional concepts through evidence of antioxidant, anti-inflammatory, immunomodulatory, and hepatoprotective actions. Kutki and Kalmegha have emerged as particularly promising hepatoprotective herbs due to their ability to reduce oxidative stress and promote liver regeneration. Daruharidra, Kakamachi, Apamarga, and Parijata further contribute to comprehensive liver support through their metabolic and anti-inflammatory effects.

Conclusion

Liver diseases are among the most common health challenges worldwide and significantly affect quality of life. Ayurveda recognizes the central role of Yakrit in maintaining metabolic and physiological balance. Disorders of the liver arise mainly due to Pitta and Rakta Dushti, resulting from improper diet, lifestyle, infections, and toxins. Herbal medicines such as Kutki, Apamarga, Daruharidra, Kakamachi, Parijata, and Kalmegha offer effective support in the prevention and management of liver diseases. Their actions include Deepana, Pachana, Pitta Shamana, Raktaprasadana, antioxidant activity, hepatocyte protection, and tissue regeneration. Thus, Ayurvedic herbal medicines represent a valuable and holistic approach to maintaining liver health and managing hepatic disorders.

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The Hepatic Mirror:

Universal Health Indicators and the Ayurvedic Paradigm of Yakrit

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The liver is the primary metabolic engine of the human body. It does not merely function as an isolated organ; it serves as a central indicator for systemic health, metabolic integrity, and immune homeostasis. From a modern biomedical perspective, hepatic dysfunction underpins broad systemic issues, including cardiovascular diseases, type-2 diabetes, and metabolic syndrome. Parallely, classical Ayurveda identifies the liver (Yakrit) as a foundational pillar of life—the root of vital fluid transformation and blood purification. Liver disorders (Yakrit Vyadhi) are prevalent and significantly impact overall health, requiring an integrated management approach. Ayurveda provides a holistic framework for diagnosing and treating liver diseases based on Dosha, Dhātu, and Mala imbalances. Ayurvedic therapies, including Ayurvedic formulations, Panchakarma, and lifestyle modifications, focus on restoring liver function and preventing disease progression. This article bridges modern clinical realities with Ayurvedic wisdom to offer a comprehensive strategy for the prevention and management of liver disorders.

YAKRIT : The seat of Ranjaka Pitta and abode of Raktavaha Srotas

Yakrit along with its partner organ Pleeha (spleen) is the abode of blood tissue (raktashaya), have embedded in them the layers and membranes which manufacture blood (raktadhara kala) and are roots of blood conveying channels (raktavaha srotas). Along with Pleeha, Yakrit is also the seat of Ranjaka Pitta, a subtype of pitta which is responsible to transform and color rasa tissue passing through them into rakta - the blood tissue. They are also the seat of Ranjaka Agni - the fiery component located in the Ranjaka Pitta, which is responsible for transforming rasa into rakta.

Physiological Roles of Yakrit

- **Seat of Ranjaka Pitta:** Yakrit houses a vital subtype of Pitta called Ranjaka Pitta (along with Ranjakagni). This energetic component is responsible for transforming Ahara Rasa (absorbed nutrient fluid) into Rakta Dhātu (red blood tissue) by giving it its red color.
- **Origin of Blood Channels:** It is considered the root or primary anatomical seat (Moolasthana) of the Raktavaha Srotas (the channels that carry and circulate blood).
- **Blood Depot (Raktashaya):** Yakrit acts as a storage reservoir (Raktashaya) and features specialised membranes (Raktadhara Kala) that actively manufacture and hold blood until it is distributed throughout the body.
- **Metabolism & Bhutagni Paka:** While general digestion happens in the stomach via Jatharagni, the secondary, specialized conversion of nutrients occurs in the liver via Bhutagni Paka. This process converts ingested matter into substances homologous to body tissues.

The Liver as a Systemic Health Indicator

In modern clinical medicine, the liver acts as an early warning system. Conditions such as Non-Alcoholic Fatty Liver Disease (NAFLD) often manifest long before cardiovascular or endocrine symptoms emerge. When hepatic pathways slow down, toxins build up in the blood, leading to a cascade of multi-organ complications.

The Ayurvedic Diagnostic Lens

Ayurveda views the liver as the *Moolasthan* (root) of the *Raktavaha Srotas* (blood-circulating channels). It houses *Ranjaka Pitta*, the metabolic bio-fire responsible for transforming *Rasa Dhatu* (plasma) into vital *Rakta Dhatu* (blood).

When lifestyle imbalances occur, the metabolic fire (*Agni*) weakens, giving rise to *Ama* (undigested toxic bioproducts). This process unfolds through specific pathologic triggers:

- **Santarpana** (Over-nutrition): Excess consumption of heavy, oily, and processed foods which impairs digestion.
- **Kapha-Meda Accumulation**: Sluggish metabolism due to modern days sedentary lifestyle leads to fat storage in liver tissue, directly mirroring modern fatty liver pathology.
- **Pitta Aggravation**: Excess heat, alcohol, or unchecked anger causes inflammation, manifesting as *Kamala* (jaundice or biliary disorders).

Yakrit Vikara (Liver Disorders)

When an improper diet (like excessive spicy, fried, or fermented foods), alcohol, or metabolic stress vitiate the *Doshas* (primarily *Pitta*), the liver loses its functional balance. This state of disease is broadly classified as *Yakrit Vikara*.

Common classical conditions correlating to modern liver disorders include:

- **Kamala**: Corresponds directly to Jaundice or acute hepatitis.
- **Yakrit Vridhhi / Yakritdalyudara**: Abnormal enlargement of the liver, correlating to Hepatomegaly or Fatty Liver Disease.
- **Yakrit Kshaya**: Destructive wasting or shrinking of liver mass, which aligns with advanced Cirrhosis.
- **Halimaka**: Severe, chronic jaundice accompanied by systemic complications.

Clinical Warning Signs

An underperforming liver provides distinct diagnostic clues across both medical frameworks:

Clinical Manifestation	Modern Biomedical Cause	Ayurvedic Interpretation
Chronic Fatigue	Impaired glycogen storage and systemic toxaemia	Agni-mandya (depleted metabolic fire) and Ama buildup
Jaundice / Scleral Icterus	Hyperbilirubinemia from biliary obstruction	Vitiation of <i>Ranjaka Pitta</i> spilling into <i>Kamala</i>
Abdominal Bloating & Gas	Altered bile flow and gut microbiome dysbiosis	Vata displacement due to sluggish hepatic <i>Agni</i>
Metabolic Syndrome	Hepatic insulin resistance and lipid accumulation	Medo-dushti (disrupted fat tissue metabolism)

Preventive Strategies (Swasthavritta)

Prevention forms the bedrock of long-term hepatic health. Mitigating metabolic risks requires explicit lifestyle and dietary interventions.

Dietary Interventions (Ahara)

- **Prioritise Bitters and Astringents:** Incorporate cruciferous vegetables (broccoli, cabbage), leafy greens, and berries to balance *Pitta* and activate detoxification enzymes.
- **Eliminate Metabolic Stressors:** Eliminate ultra-processed sugars, trans fats, and alcohol, which serve as direct hepatic toxins.
- **Honour the Digestive Fire:** Eat only when true hunger is present to prevent the formation of *Ama*. Avoid heavy evening meals or sleeping immediately after eating.

Behavioral Adaptations (Vihara)

- **Circadian Synchrony:** Maintain regular sleep-wake cycles. Sleeping past sunrise slows down metabolic functions and exacerbates fat storage. *Diwaswapn* and *Ratrijaagan* disturbs body metabolism.
- **Regulated Physical Activity:** Engage in moderate daily exercise to stimulate hepatic lipid metabolism and eliminate excess *Kapha*.
- **Stress Management:** Practice *Pranayama* (such as *Nadi Shodhana*) and targeted yoga postures (like *Bhujangasana*) to lower circulating cortisol levels, directly reducing metabolic stress on the liver.

Therapeutic Management Protocols

When prevention transitions to clinical management, an integrative approach optimizes recovery and tissue regeneration.

Shodhana (Purification & Panchakarma)

For chronic hepatic congestion, metabolic syndrome, or early-stage fibrosis, classic purificatory steps help reset system dynamics:

1. **Snehana & Swedana:** Controlled internal and external oleation to mobilize fat-soluble toxins from peripheral tissues back to the gastrointestinal tract.
2. **Virechana (Therapeutic Purgation):** The gold-standard treatment for liver disorders. Directed elimination clears excess *Pitta*, flushes congested bile channels, and stabilizes hepatic enzyme markers ($\backslash$ (AST/ALT)).

Shamana (Palliative & Hepatoprotective Herbs)

Specific, evidence-based botanicals protect hepatic architecture and stimulate cellular repair:

- **Bhumyamalaki (Phyllanthus niruri):** A premier hepatoprotective herb that reduces lipid accumulation and blocks viral replication pathways.
- **Kutki (Picrorhiza kurroa):** A potent bitter that stimulates bile secretion, regulates liver enzymes, and acts as an anti-inflammatory agent.
- **Kalmegh (Andrographis paniculata):** Enhances natural detoxification, counters drug-induced liver injuries, and improves metabolic profiles.
- **Arogyavardhini Vati:** A classical herbo-mineral formulation routinely utilized to manage fatty liver and metabolic sluggishness by balancing *Kapha* and *Meda*.

The liver functions as a direct mirror of systemic lifestyle choices. By combining the diagnostic depth of modern laboratory diagnostics with the metabolic and lifestyle wisdom of Ayurveda, one can deploy highly effective, preventative, and restorative therapies. True liver care moves beyond temporary cleanses; it focuses on sustaining daily metabolic balance (*Agni*), keeping body tissues clean, and honoring this vital organ. The liver serves as the ultimate metabolic barometer of human health, where early identification of hepatic stress via modern diagnostics and classical Ayurvedic principles can prevent systemic metabolic failure. Maintaining equilibrium requires a structured approach balancing diet, lifestyle adjustments, and personalized therapeutic interventions.

यकृत-प्लीहा विकार

चरक संहिता के अनुसार परिचय, निदान, संप्राप्ति, लक्षण एवं चिकित्सा

Dr. Mohammad Shahid
DAUO Almora

यकृत-प्लीहा विकार का परिचय

यकृत-प्लीहा विकार मतलब (लिवर) जिगर और (स्प्लीन) तिल्ली सूजन आ जाए, सख्त हो जाए, दर्द करे, या अपना काम ठीक से न करे - यही विकार है।

चरक संहिता में "यकृत" और "प्लीहा" को अलग-अलग नहीं, बल्कि "प्लीहोदर" या "प्लीहा वृद्धि" के रूप में बताया गया है।

- "प्लीहा" = तिल्ली/स्प्लीन
- "यकृत" = जिगर/लिवर

"प्लीहा" को "कफ और रक्त का स्थान" कहा है। यह शरीर में रक्त को साफ करने, रस-रक्त का निर्माण करने और रोग प्रतिरोधक शक्ति बढ़ाने का काम करती है।

जब प्लीहा या यकृत में सूजन, कठोरता, बढ़ोतरी या दर्द होता है, तो उसे "प्लीहोदर" कहते हैं।

चरक सूत्रस्थान 18/44

"कफ-रक्ताश्रया प्लीहा" = प्लीहा कफ और रक्त पर आश्रित अंग है।

निदान - ये विकार क्यों होता है?

चरक संहिता, निदानस्थान 7/8-9 में प्लीहा रोग के कारण निम्नवत हैं।

A. आहार संबंधी कारण

1. गुरु, अभिष्यंदी भोजन: बहुत भारी, चिकना, चिपचिपा खाना - जैसे दिन में सोकर खाना, बार-बार तला हुआ खाना।
2. विरुद्ध आहार: दूध के साथ मछली, दही के साथ गर्म चीजें, खट्टा + मीठा साथ में।
3. अजीर्ण में खाना: पिछला खाना न पचा हो और फिर से खा लिया।
4. अत्यधिक खट्टा, नमकीन, कसैला रस: इमली, अचार, बहुत नमक खाना।
5. मदिरा, मांस का अत्यधिक सेवन: शराब पीना, भारी मांस खाना।

B. विहार/जीवनशैली के कारण

1. दिवास्वप्न: दिन में सोना, खासकर खाने के तुरंत बाद।
2. वेग धारण: पेशाब, मल, गैस, छींक, उल्टी के वेग को रोकना।
3. अत्यधिक श्रम + तुरंत पानी पीना: खूब मेहनत करके तुरंत ठंडा पानी पीना।
4. आघात: पेट के बाएं हिस्से में चोट लगना, जहां प्लीहा होती है।

C. दोष संबंधी कारण

- कफ और रक्त का प्रकोप मुख्य कारण है। जब कफ बढ़ता है तो वह प्लीहा में जमता है। रक्त दूषित होता है तो प्लीहा में रुक जाता है। इससे प्लीहा धीरे-धीरे बढ़ने लगती है।
- उक्त सब कारण मिलकर तिल्ली-जिगर का विकार उत्पन्न करते हैं।

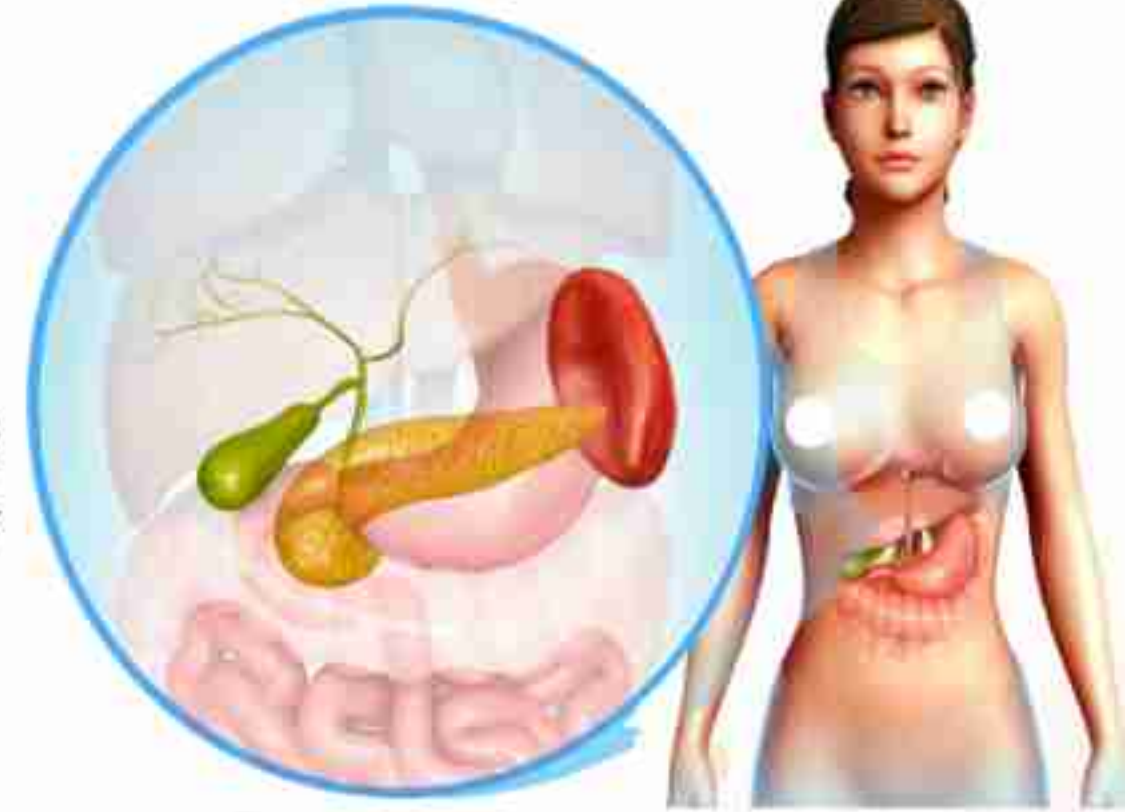
संप्राप्ति - शरीर में बीमारी कैसे बनती है?

चरक के अनुसार संप्राप्ति 6 स्टेप में होती है:

- स्टेप 1: दोष संचय- खराब खाना + गलत जीवनशैली से शरीर में कफ दोष और दूषित रक्त इकट्ठा होता है।
- स्टेप 2: दोष प्रकोप- जमा हुआ कफ और दूषित रक्त गर्म होकर उबलता है, बढ़ता है।
- स्टेप 3: प्रसार- ये बढ़ा हुआ कफ-रक्त शरीर में घूमता है और बाएं कोख/पेट में पहुंचता है, जहां प्लीहा है।
- स्टेप 4: स्थान संश्रय- प्लीहा पहले से ही कफ-रक्त का स्थान है। तो ये दूषित कफ-रक्त प्लीहा में जाकर बैठ जाता है।
- स्टेप 5: व्यक्ति- प्लीहा में जमा कफ-रक्त धीरे-धीरे प्लीहा को फुलाता है, सख्त बनाता है। प्लीहा बढ़ जाती है।
- स्टेप 6: भेद- अब लक्षण दिखते हैं - दर्द, सूजन, भूख न लगना, कमजोरी।

चरक निदान 7/9

"प्लीहा वृद्धिर्भवति शनैः शनैः" = प्लीहा धीरे-धीरे बढ़ती है।



लक्षण

A. प्लीहा विकार के लक्षण

- दर्द
- सूजन
- भूख न लगना
- कमजोरी

B. यकृत विकार के लक्षण - चरक सूत्र 18 में अप्रत्यक्ष

यकृत को चरक "रजक पित्त का स्थान" कहते हैं। जब यकृत खराब होता है तो:

- आंख, नाखून, त्वचा पीली - पीलिया
- पेशाब पीला, मल सफेद
- भूख न लगना, उल्टी
- थकान, कमजोरी

C. दोनों साथ हों तो - प्लीहोदर

पेट बहुत फूल जाता है, जैसे गर्भ जैसा। पैरों में सूजन, सांस फूलना, बिल्कुल भूख न लगना।

चिकित्सा

A. शोधन चिकित्सा - शरीर की सफाई

1. वमन- कफ ज्यादा हो तो उल्टी कराकर कफ निकालना। मधु, यवक्षार, सैधव से वमन।
 2. विरेचन- पित्त + रक्त दूषित हो तो जुलाब देकर नीचे से साफ करना। त्रिवृत, दंती से विरेचन।
 3. रक्तमोक्षण- बहुत ज्यादा रक्त दूषित हो तो जोंक लगाकर या वेधन करके दूषित रक्त निकालना।
- नोट: ये सब वैद्य की देखरेख में ही होता है। घर पर न करें।

B. शमन चिकित्सा - दवाओं से शांत करना

चरक ने बहुत सारे योग बताए हैं। मुख्य औषधियां

1. प्लीहा को घटाने वाली औषधियां
 - पिप्पली: कफ तोड़ती है, प्लीहा घटाती है।
 - चित्रक: अग्नि बढ़ाती है, गांठ तोड़ती है।
 - हरड़, बहेड़ा, आंवला: त्रिफला - रक्त साफ करती है।
 - गुग्गुलु: गांठ गलाती है, सूजन कम करती है।
2. चरक के मुख्य योग
 - प्लीहारि योग: पिप्पली + चित्रक + सैधव + तक्र - रोज पिएं।
 - क्षार योग: यवक्षार + सज्जीक्षार + तक्र - प्लीहा को गलाता है।
 - गोमूत्र हरितकी: हरड़ को गोमूत्र में भिगोकर - कफ और प्लीहा दोनों को कम करती है।
3. यकृत के लिए
 - भूनिम्ब, कालमेघ, भूमि आंवला: पित्त शुद्ध करते हैं।
 - त्रिफला + शहद: रात को - यकृत को शक्ति देता है।

C. पथ्य-अपथ्य - क्या खाएं, क्या न खाएं

पथ्य - खाने योग्य

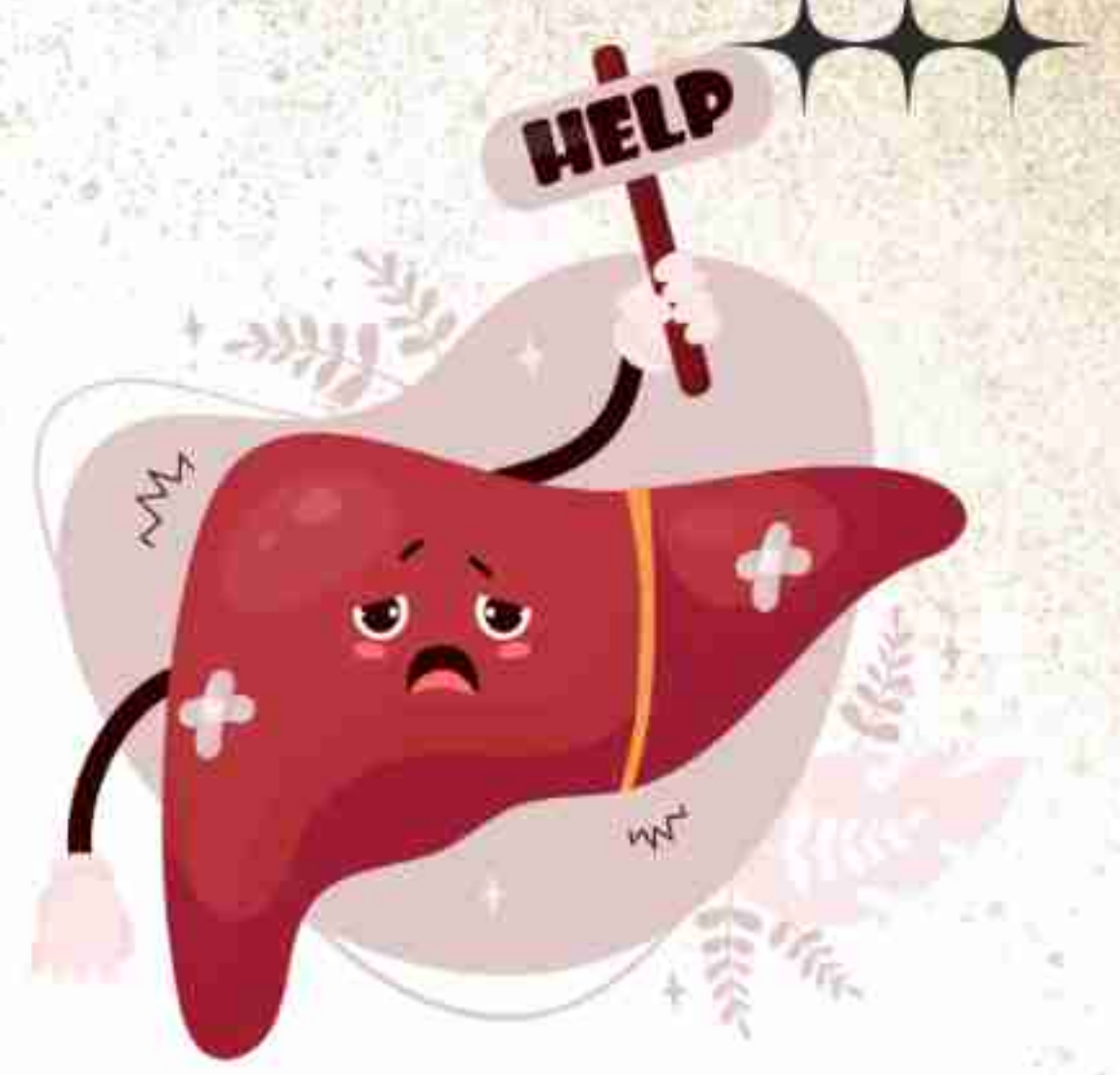
1. पुराना जौ, गेहूं, सांठी चावल।
2. मूंग की दाल, कुल्थी, मसूर।
3. परवल, करेला, लौकी।
4. तक्र - छाछ, मट्ठा।
5. अनार, आंवला।
6. गर्म पानी, शहद मिला पानी।

अपथ्य - मना है

1. नया अनाज, भारी मांस।
2. दही, दूध, मिठाई।
3. तला हुआ, चटपटा, खट्टा।
4. दिन में सोना।
5. शराब, कोल्ड ड्रिंक।

D. बाहरी चिकित्सा

1. लेप
प्लीहा पर एरंड का पत्ता + हल्दी + सरसों तेल का लेप।
2. स्वेदन
गर्म सिंकाई - नाड़ीस्वेद या भापा।
3. उद्धर्तन
उबटन - कुल्थी + सरसों का पाउडर से मालिश।





Yakrit-Pleeha Vikara: Liver and Spleen Disorders in Ayurveda

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Introduction

The liver and spleen are among the most important visceral organs involved in metabolism, digestion, blood formation, detoxification, and immune functions. Disorders of these organs constitute a significant proportion of systemic diseases affecting human health. In modern medicine, various conditions such as hepatitis, cirrhosis, fatty liver disease, splenomegaly, portal hypertension, and hematological disorders are associated with impaired liver and spleen function. Ayurveda, the ancient science of life, has extensively described diseases related to these organs under the concepts of Yakrit Vikara (liver disorders) and Pleeha Vikara (spleen disorders).

Although the classical Ayurvedic texts do not describe the liver and spleen in the same anatomical and physiological manner as modern medicine, they provide a comprehensive understanding of their functions, pathology, and management. The liver (Yakrit) and spleen (Pleeha) are considered important Moola Sthanas of Raktavaha Srotas and play a vital role in the formation, nourishment, and maintenance of Rakta Dhatu. Disturbances in Doshas, especially Pitta, along with impairment of Agni and accumulation of Ama, lead to the development of various hepatic and splenic disorders

Concept of Yakrit and Pleeha in Ayurveda

Ayurvedic classics recognize Yakrit and Pleeha as important organs associated with Rakta Dhatu. Acharya Charaka and Acharya Sushruta have mentioned these organs while describing Raktavaha Srotas and Udara Roga. The Yakrit is regarded as the principal seat of Ranjaka Pitta, which imparts color and functional maturity to Rakta Dhatu. Ranjaka Pitta transforms Ahara Rasa into Rakta and supports various physiological functions related to blood formation and metabolism.

The Pleeha is considered a supportive organ in Rakta metabolism and storage. It is closely associated with the maintenance and purification of blood and contributes to the body's defense mechanisms. Any disturbance in the physiological activities of Yakrit and Pleeha affects the production, circulation, and quality of Rakta Dhatu, leading to systemic manifestations.

Etiological Factors (Nidana)

The causative factors responsible for liver and spleen disorders are primarily related to faulty dietary habits, unhealthy lifestyle practices, and disturbances in digestion. Excessive intake of spicy, sour, salty, oily, fermented, and incompatible foods causes aggravation of *Pitta Dosha*. Consumption of alcohol, contaminated food, excessive fasting, overeating, suppression of natural urges, and prolonged psychological stress further contribute to the development of hepatic and splenic diseases.

Aggravated *Doshas*, particularly *Pitta* and *Kapha*, impair *Jatharagni* and *Dhatvagni*, leading to the formation of *Ama*. This toxic metabolic by-product circulates through the body and accumulates in various tissues and organs, including *Yakrit* and *Pleeha*. The resulting obstruction of *Srotas* initiates pathological changes and disease manifestation.



Pathogenesis (Samprapti)

The pathogenesis of liver and spleen disorders begins with Agnimandya, or diminished digestive fire. Due to improper digestion, Ama is produced and accumulates in the body. Simultaneously, Doshas become vitiated and enter the circulatory channels. The vitiated Pitta particularly affects Rakta Dhatu and its associated organs, namely Yakrit and Pleeha.

As Ama and Doshas accumulate within these organs, normal physiological functions become impaired. Obstruction of Raktavaha Srotas and dysfunction of Ranjaka Pitta lead to abnormalities in blood formation, metabolism, and detoxification processes. Progressive involvement of Kapha results in enlargement and heaviness of the organs, while Vata contributes to degeneration and structural abnormalities. The combined effect manifests as various clinical conditions involving the liver and spleen.

Yakrit Vikara (Liver Disorders)

Kamala (Jaundice)

Kamala is one of the most extensively described hepatic disorders in *Ayurveda*. It develops primarily due to excessive aggravation of *Pitta* and *Rakta*. Classical symptoms include yellow discoloration of the skin, eyes, urine, and feces, along with weakness, anorexia, indigestion, fatigue, and burning sensation. *Kamala* is often considered a complication of *Pandu Roga* and may progress to severe forms if untreated.

Kumbha Kamala

Kumbha Kamala is regarded as an advanced and chronic stage of *Kamala*. It is characterized by marked tissue depletion, generalized swelling, severe weakness, and persistent jaundice. The condition resembles chronic liver diseases and hepatic failure described in modern medicine.

Halimaka

Halimaka is another important disorder resulting from the combined vitiation of *Vata* and *Pitta*. Patients exhibit greenish-yellow discoloration of the body, fatigue, dizziness, weakness, and digestive disturbances. The disease reflects profound derangement of *Rakta* and *Pitta* metabolism.

Yakrit Vridhhi

Yakrit Vridhhi refers to enlargement of the liver resulting from *Dosha* accumulation, impaired circulation, and chronic inflammatory processes. Patients may experience abdominal discomfort, heaviness, loss of appetite, nausea, and digestive disturbances. This condition may correlate with hepatomegaly observed in modern clinical practice.

Pleeha Vikara (Spleen Disorders)

Pleeha Vridhhi

Pleeha Vridhhi denotes enlargement of the spleen caused by *Dosha* imbalance and obstruction within the channels of circulation. *Kapha* and *Vata* are predominantly involved in its pathogenesis. Clinical manifestations include abdominal distension, heaviness, fatigue, anorexia, weakness, and pain in the left upper abdomen.

Pleehodara

Pleehodara is classified under *Udara Roga* and develops due to chronic enlargement and dysfunction of the spleen. The disease is characterized by progressive abdominal enlargement, emaciation, weakness, impaired digestion, and disturbed bowel habits. Advanced cases may lead to significant impairment of overall health.

Association with Pandu Roga

Ayurveda recognizes a close relationship between *Pleeha* disorders and *Pandu Roga*. Chronic abnormalities in *Rakta Dhatu* and splenic function contribute to symptoms resembling anemia, including pallor, weakness, breathlessness, and reduced physical endurance.



Clinical Manifestations

The common symptoms associated with liver and spleen disorders include loss of appetite, indigestion, nausea, fatigue, weakness, abdominal discomfort, heaviness, abdominal distension, altered bowel habits, discoloration of skin and eyes, anemia, and edema. Since these organs play a central role in Rakta metabolism and digestion, their dysfunction often produces systemic manifestations affecting multiple organ systems.

Principles of Management

Ayurvedic management of liver and spleen disorders is based on the correction of *Agni*, elimination of *Ama*, balancing of *Doshas*, purification of *Rakta*, and restoration of normal organ function. Treatment is individualized according to the predominance of *Dosha* and stage of disease.

Shodhana Therapy

Shodhana procedures help eliminate accumulated *Doshas* from the body. *Virechana* is particularly beneficial in *Pitta*-dominant disorders such as *Kamala* and *Yakrit Vikara*. In selected conditions, *Raktamokshana* may be employed to remove vitiated *Rakta* and improve circulation.

Shamana Therapy

Shamana treatment includes the administration of herbal and herbo-mineral formulations possessing *Deepana*, *Pachana*, *Pitta-Shamaka*, and *Rasayana* properties. These medicines improve digestion, reduce inflammation, protect hepatic tissue, and restore metabolic functions.

Important medicinal plants used in hepatic and splenic disorders include *Punarnava*, *Bhumyamalaki*, *Guduchi*, *Katuki*, *Kalmegha*, *Daruharidra*, *Haritaki*, and *Amalaki*. These drugs exhibit hepatoprotective, antioxidant, anti-inflammatory, and immunomodulatory activities.

Diet and Lifestyle

Dietary regulation plays a crucial role in the management of *Yakrit* and *Pliha* disorders. Easily digestible foods, green vegetables, fruits, and light preparations are recommended. Heavy, oily, spicy, fermented, and alcoholic substances should be avoided. Regular physical activity, proper sleep, stress management, and maintenance of digestive health contribute significantly to recovery and prevention.

Conclusion

Liver and spleen disorders are comprehensively described in *Ayurveda* through the concepts of *Yakrit Vikara* and *Pliha Vikara*. These conditions arise due to *Dosha* imbalance, *Agnimandya*, *Ama* formation, and impairment of *Rakta* metabolism. Classical diseases such as *Kamala*, *Kumbha Kamala*, *Halimaka*, *Pliha Vriddhi*, and *Plihodara* demonstrate the *Ayurvedic* understanding of hepatic and splenic pathology. *Ayurveda* emphasizes a holistic approach involving correction of *Agni*, elimination of *Ama*, *Dosha* balance, *Shodhana* therapies, herbal medications, and appropriate dietary and lifestyle modifications. This integrated perspective provides valuable insights into the prevention and management of liver and spleen disorders while promoting overall health and well-being.



Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD):

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Introduction

In 1980, Ludwig et al. reported a liver condition mimicking alcoholic hepatitis that can progress to cirrhosis in persons who did not consume a significant amount of alcohol. The patients were moderately obese, and many had obesity-related diseases, such as diabetes mellitus. The term non-alcoholic steatohepatitis was coined for this liver condition. [1]

In 2020, Eslam et al proposed the new term 'metabolic dysfunction-associated steatosis liver disease (MASLD),' which could be diagnosed in adults with hepatic steatosis detected by imaging techniques, blood biomarkers, or liver histology, when overweight or obese, or in the presence of T2DM or at least two metabolic risk abnormalities. [2]

In June 2023, a multi-society Delphi consensus statement on a new fatty liver disease nomenclature was published, introducing the term metabolic dysfunction-associated steatotic liver disease (MASLD) and effectively retiring the term NAFLD. [3]

Progressive forms may lead to steatohepatitis, fibrosis, cirrhosis, and hepatocellular carcinoma.

MASLD has been estimated to affect 30% of the adult population worldwide, with its prevalence increasing from 22% to 37% from 1991 to 2019. [4]

Ayurvedic Conceptualization of MASLD

Simultaneously in Ayurveda, has another conceptualization of this disease. Classical texts, including the Charaka Samhita (400 BCE - 200 CE) and Sushruta Samhita, discuss the clinical entity of Yakritodara (literally, enlarged liver and abdomen) or Medoroga (disorder of fat metabolism). Ayurveda claims that fatty liver is caused by vitiation of the dosha (Kapha dosha) and the dhatu (fat tissue - Meda Dhatu); then the channels or srotas of fat (Medovaha Srotas) are blocked (Srotorodha), and the liver (Yakrit) is a focal point of metabolic functions. [5]

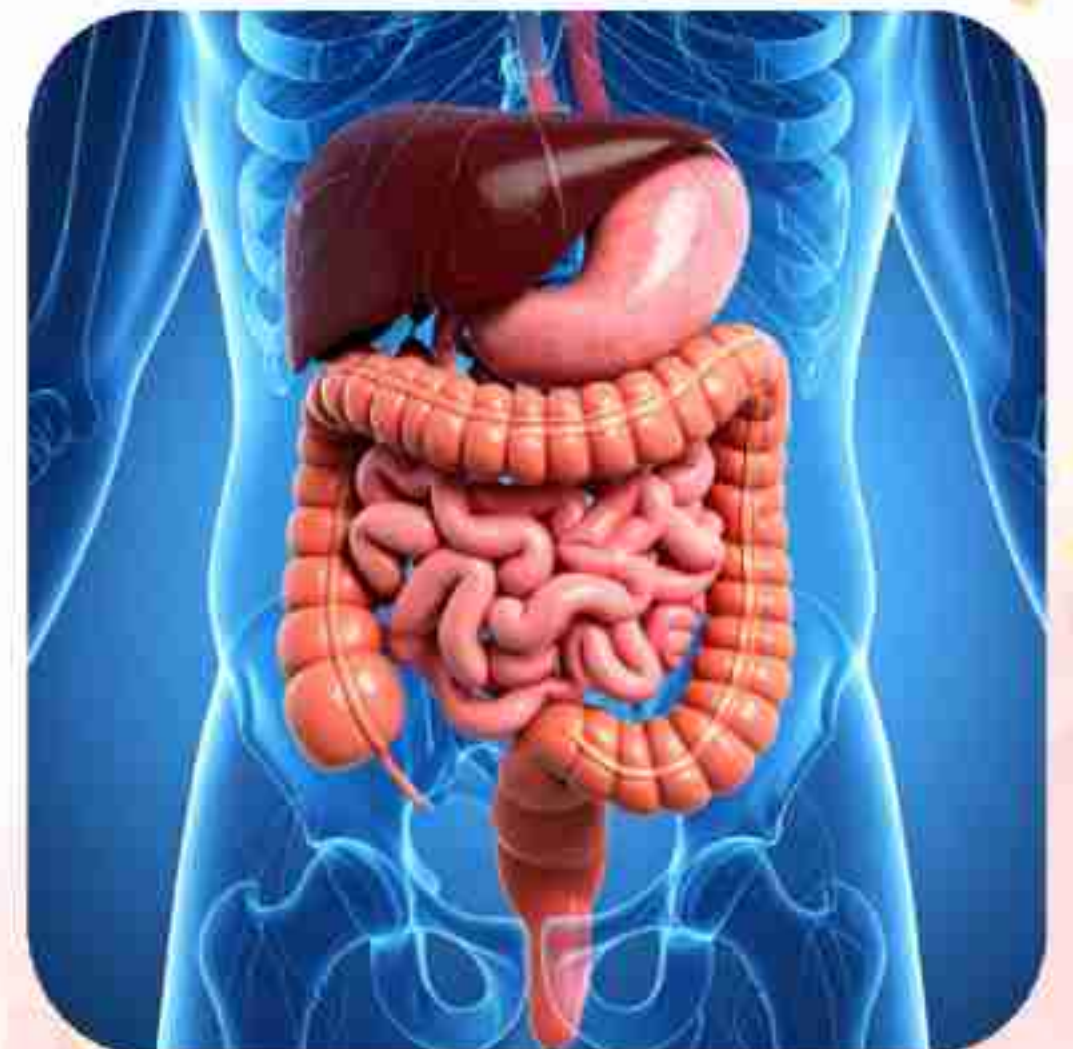
Although the term fatty liver is not directly mentioned in classical texts, MASLD can be understood through the following Ayurvedic concepts:

Ayurvedic Samprapti of MASLD

MASLD can be correlated with Santarpanotha Vyadhi, Medoroga, and Yakrit Dushti. Excessive consumption of Madhura, Snigdha, and Guru Ahara, along with Avyayama and Divasvapna, causes Agnimandya and Ama formation. This leads to aggravation of Kapha and Meda, resulting in Medovaha Srotodushti and Srotorodha. The vitiated Kapha-Meda accumulates in the Yakrit (liver), causing hepatic steatosis, which can be correlated with MASLD.

Samprapti:

Nidana Sevana → Agnimandya → Ama Utpatti → Kapha-Meda Vriddhi → Medovaha Srotodushti → Srotorodha → Yakrit Dushti → Meda Sanchaya in Yakrit (MASLD)





Correlation with Modern Pathophysiology

The Ayurvedic model shows remarkable concordance with contemporary understanding:

- Medodhatvagnimandya correlates with hepatic insulin resistance and impaired fatty acid β -oxidation in mitochondria.
- Srotorodha corresponds to the accumulation of intrahepatic triglycerides and the resulting lipotoxicity-induced endoplasmic reticulum stress.
- Ama is conceptually analogous to advanced glycation end-products (AGEs) and pro-inflammatory cytokines (e.g., TNF- α , IL-6) that drive the transition from simple steatosis to NASH [6].
- Kapha-Pitta predominance in Yakritodara aligns with the dual pathology of metabolic inertia (Kapha) and inflammation (Pitta).

Role of Panchakarma in MASLD

Panchakarma, comprising the five main therapies along with preparatory and supportive measures, seeks to dislodge and expel Ama (metabolic toxins) and vitiated Dosha, revive Agni, and regulate tissue metabolism. Among its methods, the following are particularly relevant for MASLD/MASH prevention:

1. Vamana Karma (Therapeutic Emesis)

Induces controlled vomiting to eliminate excess Kaphadi Dosha and Ama through the upper gastrointestinal tract. This procedure is particularly beneficial for conditions characterized by metabolic stagnation and adiposity, such as MASLD/MASH. By removing accumulated toxins through the upper gastrointestinal tract, Vamana enhances Agni, improves lipid metabolism, and supports liver function. Clinical studies have demonstrated significant reductions in oxidative stress markers and improvements in lipid profiles following Vamana therapy, underscoring its role in metabolic health. [7]

2. Virechana Karma (Therapeutic Purgation)

Virechana Karma involves the administration of purgative substances to eliminate vitiated Pittadi Dosha and accumulated toxins through the lower gastrointestinal tract. This procedure aids in detoxifying the hepatobiliary system, reducing fat accumulation, and improving lipid metabolism, which is crucial for preventing the progression of MASLD to MASH. [8]

3. Basti Karma (Medicated Enema)

Basti Karma is a key Panchakarma therapy for regulating Vatadi Dosha and managing metabolic disorders. It involves the rectal administration of medicated oils (Sneha Basti) or decoctions (Niruha Basti), allowing absorption into the colon and systemic circulation. In MASLD/MASH, Basti aids detoxification by eliminating accumulated Ama and reducing hepatic burden. Formulations like Lekhana Basti help modulate adipose tissue and improve lipid metabolism. By normalizing Vata and supporting metabolic balance, Basti indirectly promotes liver health, reduces hepatic fat accumulation, and may prevent disease progression. Clinical studies have reported improvements in lipid profiles, body weight, and metabolic parameters, underscoring its role in managing lifestyle-related metabolic disorders. [9,10,11]

4. Nasya Karma (Nasal Administration)

Nasya Karma involves the administration of medicated oils or herbal preparations through the nasal passages. This therapy primarily targets head and neck channels but indirectly modulates systemic Dosha, improves metabolism, and assists in detoxification, making it beneficial in the early stages of MASLD/MASH. [12]

5. Raktamokshana Karma (Therapeutic Bloodletting)

Involves the controlled removal of vitiated blood to reduce Pitta-mediated inflammation and systemic toxicity. In MASLD, where hepatic inflammation and hepatomegaly are common, Raktamokshana helps lower oxidative stress, modulate inflammatory mediators, & reduce hepatic congestion, thereby supporting liver function and metabolic

balance. Clinical observations indicate that this therapy can alleviate hepatomegaly, improve liver enzyme profiles, and mitigate symptoms associated with early-stage liver dysfunction. [13,14,15]

Panchakarma's multimodal effects, including metabolomic modulation, anti-inflammatory actions, improved insulin sensitivity through changes in body weight and composition, and stress reduction, provide a plausible mechanistic basis for its preventive impact in MASLD/MASH.

Supportive Ayurvedic Measures

Pathya- Yava (Barley), Mudga (Green gram), Kulattha (Horse gram), Takra (Buttermilk), Warm water, Light digestible diet

Apathya- Fried foods, Refined sugars, Bakery products, Day sleep, Alcohol, Sedentary habits

Commonly Used Ayurvedic Drugs- Guduchi (*Tinospora cordifolia*), Bhumyamalaki (*Phyllanthus niruri*), Katuki (*Picrorhiza kurroa*), Punarnava (*Boerhaavia diffusa*), Triphala, Musta, Daruharidra

Discussion

MASLD represents a metabolic disorder arising from excessive nutritional intake and sedentary behavior. Ayurveda interprets this condition through the framework of Santarpanottha Vyadhi, Medoroga, Agnimandya, and Yakrit Dushti. The accumulation of Kapha and Meda, combined with impaired Agni, creates a pathological environment conducive to hepatic fat deposition.

Panchakarma addresses the root pathology by eliminating accumulated doshas, correcting metabolic dysfunction, restoring Agni, and improving tissue metabolism. Among Panchakarma procedures, Virechana and Lekhana Basti appear particularly relevant due to their effects on hepatic function and Meda metabolism. When integrated with dietary regulation and lifestyle modification, Panchakarma offers a holistic approach for managing MASLD.

Conclusion

Metabolic Dysfunction-Associated Steatotic Liver Disease can be effectively understood through Ayurvedic principles of Medoroga, Santarpanottha Vyadhi, Agnimandya, and Yakrit Dushti. Panchakarma therapies, especially Vamana, Virechana, and Lekhana Basti, target the fundamental pathology of Kapha-Meda accumulation and metabolic impairment. Classical Ayurvedic principles support a comprehensive treatment strategy combining Shodhana, Shamana, Pathya Ahara, and lifestyle modifications for the prevention and management of MASLD.

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Conceptual Correlation of Yakrit Vikara and Pleeha Vikara with Modern Hepatic and Splenic Diseases

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Abstract

Yakrit (liver) and Pleeha (spleen) are recognized in Ayurveda as vital organs associated with Rakta Dhatu and Raktavaha Srotas. Classical descriptions of Yakrit Vikara and Pleeha Vikara exhibit notable conceptual parallels with modern hepatic and splenic disorders. Ayurvedic concepts such as Agnimandya, Ama, and Srotodushti provide a comprehensive framework for understanding disease pathogenesis. Conditions including Yakrit Vriddhi, Kamala, Yakritodara, and Pleehodara may be correlated with hepatomegaly, jaundice, cirrhosis, portal hypertension, and splenomegaly. This review examines these correlations and highlights the relevance of Ayurvedic principles in the contemporary understanding of liver and spleen disorders.

Keywords: Yakrit Vikara, Pleeha Vikara, Raktavaha Srotas, Ranjaka Pitta, Hepatic Disorders, Splenic Disorders.

Introduction

Yakrit (liver) and Pleeha (spleen) occupy a position of cardinal importance in Ayurvedic physiology. Acharya Sushruta identifies them as the seat of Raktashaya - the reservoir of blood - stating: Shonitasya sthanam yakrut pleehaanu jeeva Raktashya itu jeeva. This places these two organs at the very core of Rakta Dhatu metabolism.

According to Acharya Charaka, Yakrit and Pleeha form the Moolasthan of Raktavaha Srotas.¹ Sushruta further adds Raktavahi Dhamani (blood-carrying vessels) to this root.² The Ranjaka Pitta, residing in these organs, is responsible for imparting the characteristic red colour to the nutrient plasma (Rasa Dhatu), thereby producing Rakta. This functional description closely mirrors the hepatic and splenic roles in hematopoiesis, erythrocyte destruction, and blood volume regulation described in modern physiology.

2. Yakrit (Liver) in Ayurveda - An Overview

The etymology of Yakrit is derived from the root yakan, meaning liver, and may also be interpreted as yan samyaman karoti itu yakrut - that which regulates and controls.³ Yakrit is classified as a Koshtanga (visceral organ) and is constitutionally derived from Rakta Dhatu during embryonic development, making it Matrija in origin.

Its anatomical placement is described as below and to the right of Hridaya (heart), corresponding accurately to the right hypochondrium and epigastrium of modern anatomy. Yakrit is recognized as the primary site of Ranjaka Pitta and Bhutagni Vyapara - processes governing haemoglobin synthesis, nutrient metabolism, and bile production (Accha Pitta / Mala Pitta).

From a modern perspective, the liver performs diverse metabolic functions including detoxification, protein synthesis, glycogen storage, bile production, and regulation of blood clotting factors. The hepatic portal system ensures that all absorbed nutrients are first processed by the liver - a function that resonates strongly with the Ayurvedic concept of Bhutagni Paka occurring in the liver.





3. Pleeha (Spleen) in Ayurveda - An Overview

Pleeha is described in Ayurvedic texts as being produced from Shonita (blood) and situated to the left of the cardiac region (vamatohrdayadayan).⁴ Great sages identify it as the root of the Siras circulating blood - signifying its role as a reservoir and regulator of the circulatory system.

In Ashtanga Hridayam, Pleeha and Yakrit are jointly identified as Raktadharakala sites - structures responsible for holding and maturing blood. The spleen's immunological functions (lymphocyte production, antibody generation), erythrocyte filtration, and its role as a blood reservoir correspond well with the Ayurvedic description of Pleeha as a Jeeva Rakta site - the abode of life-sustaining blood.

Yakrit Vridhhi, characterized by right-sided heaviness, discoloration, constipation, and Agnimandya, closely resembles fatty liver disease and hepatomegaly, where hepatic enlargement and impaired digestion are common manifestations. The causative factors described in Ayurveda, such as consumption of Vidahi, Guru, and Abhishyandi Ahara, excessive Madya Sevana, Vegarodha, and sedentary habits, parallel the modern risk factors of fatty liver disease, including unhealthy diet, alcohol intake, physical inactivity, and metabolic syndrome.⁵ Kamala, resulting from aggravated Pitta affecting Rakta and Mamsa Dhatu, presents with Haridra Netra, Twak Pita, and Daha, correlating with hepatocellular and obstructive jaundice. Likewise, Yakritodara corresponds to hepatic ascites associated with cirrhosis and portal hypertension. The Ayurvedic sequence of Agnimandya → Ama formation → Srotodushti → Jalodara closely mirrors the modern progression from hepatic inflammation and fibrosis to cirrhosis and ascites.^{6,7} Furthermore, Raktaja and Pittaja Yakrit Vikara, characterized by Klama, Bhrama, Vaivarnya, Moha, fever, thirst, and yellow discoloration, can be correlated with decompensated cirrhosis, hepatic encephalopathy, acute hepatitis, and biliary disorders.

Similarly, Pleeha Vikara shows close resemblance to modern splenic diseases. Pleehodara, described by Acharya Charaka as progressive enlargement of the spleen extending into the Kukshi, resembles chronic splenomegaly seen in conditions such as portal hypertension, haemolytic anaemia, malaria, and lymphoma. The tridoshik classification of Pleeha Vikara into Vataja, Pittaja, Kaphaja, Raktaja, and Sannipataja types provides a comprehensive understanding of different clinical presentations. Kaphaja Pleeha correlates with infiltrative splenomegaly, Raktaja Pleeha with haemolytic disorders, and Vataja Pleeha with functional hypersplenism.⁸ Ayurveda also recognizes the functional relationship between Yakrit and Pleeha, noting hepatic compensation after splenectomy, which aligns with modern observations of altered immune and haematopoietic functions following spleen removal.⁹ At a broader level, Raktavaha Srotodushti, arising from dysfunction of Yakrit and Pleeha, explains disorders such as Pandu, Raktapitta, and Jalodara. The concepts of Mandagni, Ama, and Srotodushti closely parallel the modern gut-liver axis, linking intestinal dysfunction, inflammation, and progressive hepatic pathology.¹⁰

Discussion

The similarities between Ayurvedic descriptions of Yakrit and Pleeha disorders and modern hepatic and splenic diseases suggest a shared understanding of organ dysfunction from different perspectives. While Ayurveda explains disease through Dosha imbalance, Agnimandya, and Srotodushti, modern medicine relies on biochemical and pathological changes. Despite these differences, both systems recognize the central role of the liver and spleen in maintaining health. Ayurvedic management, including Deepana-Pachana, Shodhana, appropriate diet, and herbal interventions such as Bhumyamalaki, Kutaki, and Guduchi, offers a holistic approach that may complement contemporary treatment strategies in chronic liver and spleen disorders.



8. Conclusion

The Ayurvedic concepts of Yakrit Vikara and Pleea Vikara offer a systematic framework for understanding disorders of the liver and spleen. Classical descriptions of organ enlargement, jaundice, ascites, and blood-related abnormalities demonstrate notable conceptual similarities with modern hepatic and splenic diseases. The principles of Agnimandya, Ama, and Raktavaha Srotodushti provide a holistic perspective on disease pathogenesis, emphasizing the interconnected nature of metabolic and hematological disturbances. Further interdisciplinary research is warranted to explore these correlations and strengthen the integration of Ayurvedic principles into contemporary approaches to liver and spleen health.

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