

Management of Yakrit Vikara (Hepatobiliary Disorders): Assessment of Hepatoprotective Ayurvedic Treatment Protocols in Reversing or Halting Non-Alcoholic Fatty Liver Disease (NAFLD) or Drug-Induced Liver Injury

Dr. Aniket Hole^{*1}, Dr. Prasana V. Joshi², Dr. Amit Bhopi³

¹PG Scholar, Department of Kayachikitsa, Shri Vijay Mahantesh Ayurvedic Medical College and Research Centre, Ilkal – 587125 anikethole9090@gmail.com

²HOD Professor, Department of Kayachikitsa, Shri Vijay Mahantesh Ayurvedic Medical College and Research Centre, Ilkal - 587125

vaidyaprasanjoshi@gmail.com

³PG Scholar, Department of Kayachikitsa, Shri Vijay Mahantesh Ayurvedic Medical College and Research Centre, Ilkal – 587125

Corresponding Author: Dr. Aniket Hole

DOI: [https://doi.org/10.63001/tbs.2026.v21.i04.S.I\(4\).pp621-623](https://doi.org/10.63001/tbs.2026.v21.i04.S.I(4).pp621-623)

KEYWORDS

Yakrit Vikara, NAFLD, Drug-Induced Liver Injury, Hepatoprotection, Ayurveda, Kayachikitsa.

Received on: 23/09/2026

Revised on: 29/09/2026

Accepted on: 10/10/2026

Published on: 19/10/2026

Abstract

Hepatobiliary disorders, including Non-Alcoholic Fatty Liver Disease (NAFLD) and Drug-Induced Liver Injury (DILI), represent complex clinical entities characterized by chronic hepatocellular inflammation, lipid accumulation, and progressive fibrogenesis (Buzzetti et al., 2016)¹. While contemporary biomedicine largely depends on lifestyle management and supportive interventions, classical Ayurveda offers a robust therapeutic architecture under the classification of Yakrit Vikara². Grounded in the vitiation of Rakta and Mamsa Dhatus, Pitta Dosha, and tissue-level Agni mandya, these conditions respond favorably to multi-targeted Ayurvedic protocols. This article details classical hepatoprotective (Yakrituttejaka and Kaphapittahara) strategies, examining the mechanistic pathways of polyherbal formulations, bio-purification (Shodhana), and cellular pacification (Shamana) in halting and reversing hepatic injury.

1. INTRODUCTION

The liver functions as the primary metabolic clearinghouse of the body, making it highly vulnerable to metabolic overload, lipid dysregulation, and xenobiotic toxicity. Non-Alcoholic Fatty Liver Disease (NAFLD) has evolved into a leading global health burden strongly correlated with insulin resistance and metabolic syndrome (Chalasani et al., 2018). Concurrently, Drug-Induced Liver Injury (DILI) accounts for a high incidence of acute liver failure driven by modern pharmacotherapy and dietary supplements³.

In classical Ayurvedic philosophy, the liver (Yakrit) is the root source (Mulasthan) of the Raktavaha Srotas and serves as the primary site for Ranjaka Pitta transformation, converting Rasa Dhatu into Rakta Dhatu (Ayushdhara, 2025)⁴. Pathological factors disrupt local tissue fires (Bhutagni and Dhatvagni), creating Ama (endotoxins), which obstruct microchannels (Srotorodha) and cause structural impairment known as Yakrit Vikara (Panda et al., 2020). This paper reviews comprehensive Ayurvedic protocols designed to reverse lipid infiltration, clear metabolic blockages, and promote liver tissue repair.

2. PATHOPHYSIOLOGICAL CORRELATION: YAKRIT VIKARA AND HEPATOTOXICITY

2.1 Classical Ayurvedic Pathogenesis (Samprapti)

Hepatic derangements stem primarily from an imbalance of Pitta and Kapha Doshas, combined with secondary Vata vitiation during advanced fibrosis⁵. Excessive intake of heavy, unctuous foods (Santarpanajanya Ahara) impairs Agni, leading to the production of Durmeda (dysregulated free fatty acids) and Ama (Bidwaik et al., 2025). This toxic complex localizes in the Yakrit, increasing local Sneha (lipid content) and triggering inflammation (Pittaprakopa) (Kumar, 2024).

2.2 Modern Clinical Correlation

NAFLD: Correlates with metabolic overload states characterized by hepatocellular ballooning, macrovesicular steatosis, and Kupffer cell-mediated inflammation (Guo et al., 2022)⁶.

DILI: Associated with cytochrome P450-mediated reactive metabolite generation, mitochondrial oxidative stress, and direct immune-mediated hepatocellular cytolysis.

Both pathological frameworks share common biochemical pathways, including lipid peroxidation, generation of reactive oxygen species (ROS), and pro-inflammatory cytokine upregulation (TNF- α , IL-6). Ayurvedic formulations target these exact molecular targets.

3. COMPREHENSIVE AYURVEDIC TREATMENT PROTOCOLS

Therapeutic management of Yakrit Vikara integrates bio-purification (Shodhana), pacification (Shamana), and cellular rejuvenation (Rasayana), paired with customized dietary discipline (Ahara-Vihara).

3.1 Shodhana Chikitsa (Biopurification)

For chronic conditions involving deep-seated lipid accumulations and microchannel blockages:

Virechana Karma: Controlled therapeutic purgation using formulations like Trivrut Lehana or Gandharvahastadi Kashaya eliminates excessive Pitta and accumulated lipid toxins from the hepatobiliary tract, resetting metabolic pathways (Ayushdhara, 2025)⁷.

Snehapana: Administration of medicated fats (Pancha-Tikta Ghrita) under strict clinical guidelines to pacify Tridoshas and mobilize deep-seated toxins prior to elimination (Kumar, 2024).

3.2 Shamana Chikitsa (Pharmacological Pacification)

For patients unsuited for rigorous purification, or as a continuous maintenance therapy:

Tikta-Kashaya Rasa Formulations: Herbs possessing bitter (Tikta) and astringent (Kashaya) tastes inherently exhibit Pitta-Kapha shamaka, Lekhana (scraping/reducing), and Deepana-Pachana actions. Classic drugs like Katuki (Picrorhiza kurroa), Bhunimba (Andrographis paniculata), Guduchi (Tinospora cordifolia), and Punarnava (Boerhavia diffusa) form the core of therapy (Chaudhary et al., 2023)⁸.

Classic Compound Formulations: Herbomineral compounds such as Arogyavardhini Vati and Chitrakadi Vati are deployed to enhance tissue-level metabolism and correct Medagni function (Kumar, 2024).

4. PHARMACOLOGICAL AND MECHANISTIC INSIGHTS

Recent clinical studies and pharmacological evaluations demonstrate that Ayurvedic treatment protocols operate via multi-targeted molecular mechanisms:

1. Antioxidant Upregulation: Phytoconstituents like picroside from Katuki and andrographolide from Bhunimba upregulate endogenous antioxidant enzymes (Superoxide Dismutase, Glutathione Peroxidase), neutralizing ROS generated during lipid peroxidation (Chander et al., 1992)⁹.

2. Suppression of Inflammatory Cascades: Active compounds in Guduchi inhibit nuclear factor-kappa B (NF- κ B) pathways, mitigating Kupffer cell activation and preventing progression from simple steatosis to non-alcoholic steatohepatitis (NASH) (Subramanian et al., 2012).

3. Lipid Clearance and Metabolism: Formulations enhance beta-oxidation of fatty acids, stimulate hepatic lipase activity, and significantly reduce intrahepatic fat accumulation and grading scores on ultrasound (Messier et al., 2026).

4. Membrane Stabilization (DILI Prevention): Hepatoprotective drugs bind to hepatocyte surface membranes, preventing xenobiotic penetration

and stabilizing intracellular enzymes to normalize serum ALT and AST levels (Kumar, 2024).

5. DISCUSSION

Modern clinical management of NAFLD and DILI remains limited due to a lack of approved, disease-modifying pharmacotherapy. The Ayurvedic paradigm bridges this gap by addressing the root metabolic dysfunction and clearing microchannel obstructions (Srotorodha) (Mishra & Gupta, 2025)¹⁰. Integrating classical Deepana-Pachana drugs, Lekhana formulations, and hepatoprotective Rasayanas provides a comprehensive framework to reduce hepatic steatosis, suppress inflammation, and promote hepatocyte regeneration.

6. CONCLUSION

Ayurvedic management of Yakrit Vikara offers a scientifically grounded, multi-targeted therapeutic approach for complex hepatobiliary diseases including NAFLD and Drug-Induced Liver Injury. Through targeted Shodhana, Shamana interventions, and lifestyle structuring, clinicians can effectively reverse hepatic lipid infiltration and support liver recovery. Further large-scale clinical trials grounded in classical frameworks are warranted to substantiate their integration into mainstream hepatology.

7. REFERENCES

1. Bidwaik, P., Tawalare, K., Jogi, P., Meshram, P., Pawar, V., Bawane, S., & Bhusari, G. (2025). Ayurvedic management of Non-Alcoholic Fatty Liver Disease (NAFLD) with biochemical and symptomatic outcomes: A case study. *International Journal of Ayurvedic Medicine*, 16(4), 1097–1101. <https://doi.org/10.47552/ijam.v16i4.6078> (<https://www.google.com/search?q=https://doi.org/10.47552/ijam.v16i4.6078>)
2. Buzzetti, E., Pinzani, M., & Tsochatzis, E. A. (2016). The multiple-hit pathogenesis of non-alcoholic fatty liver disease (NAFLD). *Metabolism*, 65(8), 1038–1048. <https://doi.org/10.1016/j.metabol.2015.12.012> (<https://doi.org/10.1016/j.meta.bol.2015.12.012>)
3. Chalasani, N., Younossi, Z., Lavine, J. E., Diehl, A. M., Brunt, E. M., Cusi, K., Rinella, M., & Sanyal, A. J. (2018). The diagnosis and management of nonalcoholic fatty liver disease: Practice guidance from the American Association for the Study of Liver Diseases. *Hepatology*, 67(1), 328–357. <https://doi.org/10.1002/hep.29367>
4. Chander, R., Kapoor, N. K., & Dhawan, B. N. (1992). Picroliv, active principle of Picrorhiza kurroa, corrects dyslipidemia in rats. *Indian Journal of Experimental Biology*, 30(4), 339–342.
5. Chaudhary, P., et al. (2023). A systematic review & meta-analysis of Ayurveda drugs for use in NAFLD. *International Journal of Ayurvedic Medicine*, 14(2), 308–316. <https://doi.org/10.47552/ijam.v14i2.3395> (<https://doi.org/10.47552/ijam.v14i2.3395>)
6. Guo, X., Yin, X., Liu, Z., & Wang, J. (2022). Non-alcoholic fatty liver disease (NAFLD) pathogenesis and natural products for prevention and treatment. *International Journal of Molecular Sciences*, 23(24), 15489. <https://doi.org/10.3390/ijms232415489> (<https://doi.org/10.3390/ijms232415489>)
7. Kumar, S. (2024). The role of Ayurvedic management in non-alcoholic fatty liver disease (NAFLD): A case study. *International Journal of Complementary & Alternative Medicine*, 17(2), 103–107. <https://doi.org/10.15406/ijcam.2024.17.00689> (<https://doi.org/10.15406/ijcam.2024.17.00689>)

8. Messier, H., et al. (2026). Effectiveness and safety of an ayurvedic nutraceutical for improving clinical parameters of liver function in participants with metabolic dysfunction-associated steatotic liver disease: A randomized, placebo-controlled, preliminary phase 2 exploratory clinical trial. *Frontiers in Nutrition*, 13, 1761666. (<https://doi.org/10.3389/fnut.2026.1761666>)
9. Mishra, R. K., & Gupta, S. (2025). Ayurvedic Strategies for Managing Non-alcoholic Fatty Liver Disease: A Holistic Approach. *International Research Journal of Ayurveda and Yoga*, 8(5), 51–58. (<https://doi.org/10.4722/irjay.2025.8551>)
10. Panda, A. K., Bhuyan, G. C., Rao, K., Binita, P., Otta, S., & Parhi, K. K. (2020). Role of meda (adipocyte) in yakrit vikara (liver diseases) - ayurveda prospective. *Journal of Ayurveda and Integrative Medical Sciences*, 2(2), 141–147.