

LIVER AND AYURVEDA: A COMPREHENSIVE LITERATURE REVIEW

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ABSTRACT

The liver, Ayurveda's "Yakrita," though mentioned sporadically, holds immense significance as the body's second-largest organ. Ayurvedic texts designate it as one of the 15 Koshtangas and the origin of the Rakta Vaha Srotas (blood channels). It serves as the site of Ranjak Pitta and is closely linked with Agni, the digestive fire. Integrating Ayurvedic principles with conventional medical interpretations offers a deeper understanding of liver disorders. By aligning Ayurveda's foundational concepts with modern medical insights, clinicians gain enhanced insight into disease pathology. This holistic approach fosters the development of more effective treatment strategies, optimizing patient care and outcomes. Synergizing Ayurveda with conventional medicine facilitates personalized interventions in liver disorders, improving overall healthcare delivery.

INTRODUCTION

Ayurveda venerates the liver, known as *Yakrit*, as more than a mere anatomical structure; it embodies a dynamic functional entity pivotal to individual health and disease. Despite its profound significance, detailed descriptions of the liver and its direct involvement in disease pathogenesis within Ayurveda are relatively sparse. Ayurvedic literature recognizes the liver's multifaceted role in physiological processes, emphasizing its crucial functions in digestion, metabolism, and detoxification. Furthermore, Ayurvedic texts elucidate the liver's association with the regulation of Pitta dosha^[1], emphasizing its central role in maintaining internal balance and vitality. While contemporary biomedical perspectives provide extensive insights into liver anatomy, physiology, and pathology, integrating Ayurvedic perspectives can enrich our understanding of the liver's holistic significance in health and disease. Thus, further exploration of Ayurvedic concepts pertaining to the liver holds promise for elucidating its intricate role and fostering integrative approaches to liver health and wellness.

MATERIAL AND METHODS

Nirukti

The term "*Yakrit*" originates from the root '*kr*' with the prefix '*ya*' and the suffix '*tuk*'. This signifies that *Yakrit* is the organ responsible for regulating all functions.

❖ यज् + "शक्रेतिन्" उणा . (Kalpadruma 4/58)

❖ काल-खन्चम् कालेयम् कलकम् इति हेमचन्द्रः

❖ "यकृत्" न. यं संयमं करोति काल-खन्चम् ३ कालेयम् ४ कलकम् ५ इति हेमचन्द्रः

❖ "यकृत्" न. यं संयमं करोति कृ क्विप् तुक् च। (Vachaspatyam)

❖ य - 'union', कृ - 'to make', affix- क्विप् and तुक् -augment

Various authors had described *Yakrit* as follows

1. *Acharya Charaka* described *Yakrit* as one among the 15 *Koshtangas* (visceral organs)
2. *Acharya Charaka*^[2] and *Acharya Sushruta*³ as the Origin of *Rakta vaha srotas*.
3. As *Raktashaya*, one *Ashaya* (Viscera) among the seven can be considered as *Yakrit*.
4. *Pittashaya* – the *Sthana* of *Pitta*, which is situated in between the *Amashaya* and *Pakwashaya* can also be considered as Liver, gall bladder as well as Pancreas.^[4]
5. *Sthana of ranjaka pitta*^[1] And in the commentary, *Dalhana* described *Yakrit* as black coloured, fleshy organ situated in the right side of the abdomen.
6. As per *Bhavamishra*, *Yakrit* is situated beneath the heart in the right side.^[5]
7. कुक्षे दक्षिणाभास्थमाम्सखण्डम् । काल- खण्डम् ॥ (*Amar kosha*)^[6]
8. *Acharya Sarngadhara* described *Yakrit* as the *Sthana* of *Ranjaka pitta*, and *Ashraya* of *Rakta*, which is situated in the right side of the body.

Synonyms of Yakrit

Kalakhanda, Kalakhanjam, Kaleyam, Kalakam, Karanda, Mahasnayu, Mamsa pinda, Jyothi sthanam, Rakthadhara.

Origin of Yakrit

This organ was known since Vedic era. Etymological origin of this organ indicates that this organ is very soft. It also refers to its black colour.

“*Syamato yakrit iti Taitiki*” “*Syamam syayate*”

“*Yakrit yatha kadha cha kritya*”

Taitiki acknowledges colour of liver as black. Liver is called as *Yakrit* because it can be cut easily due to its softness. According to Ayurvedic Embryology as described in *Sushruta Samhita*, *Yakrit* is formed from the from the *rakta* of the *Garbha*. It is derived from the maternal part also.^[7]

Yakrita in Bruhatrayis of Ayurveda

The main three Ayurvedic classics, were compiled, detailed descriptions of *Raktavaha srotas* (blood channels) and *Raktapradoshaja vyadhis* (diseases originating from blood disorders) were presented in both *Laghuthrayees* and *Bruhathrayees*. Acharya Charaka extensively elaborated on these topics in various chapters of his work. In *Vimana Sthana's* 5th chapter, he described *Raktavaha srotas*, while *Shonithaja rogas* (diseases related to blood) were detailed in *Sutrasthana's* 24th chapter. Additionally, Charaka dedicated an entire chapter in *Chikitsa Sthana* (16th chapter) to discuss *Pandu* (anemia) and *Kamala* (jaundice) rogas, highlighting their clinical features and management.

Acharya Sushruta also contributed significantly to the understanding of *Raktavaha srotas* and related disorders. In *Shareerasthana's* 9th chapter, he described the anatomy and pathology of *Raktavaha srotas*, emphasizing their role in health and disease. Sushruta identified *Kamala* as a synonym for *Pandu* roga in *Uttaratantra's* 44th chapter and introduced terms like *Lagharaka* and *Alasa* to further describe jaundice. Moreover, he discussed the etiology, symptoms, and treatment of *Yakrutodara* (enlargement of the liver) in *Nidana Sthana's* 7th chapter and *Chikitsa Sthana's* 14th chapter.

Acharya Vagbhata, following the Acharya Charaka and Sushruta, provided additional insights into *Raktapradoshaja vyadhis* in his work. He dedicated two chapters to the discussion of *Kamala* and *Pandu roga* in *Nidana Sthana* (13th chapter) and *Chikitsa Sthana* (16th chapter). Vagbhata also detailed the etiology, pathogenesis, and clinical features of *Udara* (abdominal disorders) in *Nidana Sthana's* 12th chapter and *Chikitsa Sthana's* 15th chapter.

Overall, the *Bruhatrayis* offer comprehensive insights into the understanding and management of *Raktavaha srotas* and *Raktapradoshaja vyadhis*, contributing

significantly to Ayurvedic knowledge on blood-related disorders and their treatment modalities.

Yakrit as a Kostanga

Kostangas are considered as the visceral organs in Ayurveda. *Charaka* describes *Kostangas* where *Yakrit* is one among them. *Sushruta* when told about *Kostha*, he mentioned 8 *koshtabhaga* in which he includes *Rudhira sthana* which may be considered as Liver.^[8] *Sharnghadhara* described the position of *Yakrit* is right to the *Hrudaya*, that is right side of the abdomen.^[9]

Yakrit as Ashaya:

The word *Ashaya* means ‘space’ and in Ayurveda there are seven *Ashayas* which are the abode of *Vata*, *Pitta*, *Kapha*, *Rakta*, and *Amashaya*, *Pakwashaya* and *Mutarshaya*, in men and additionally *Garbhashaya* as the eighth *Ashaya* in women. The abode of *Rakta* is considered as *Yakrit* here. It is the space where the *Rasa* become transformed to *Rakta* with the help of *Ranjaka Pitta*.^[10]

DISCUSSION

The liver serves as a vital hub for a myriad of physiological functions essential for maintaining overall health. These functions include metabolizing macronutrients, regulating blood volume, supporting the immune system, controlling growth signalling pathways through endocrine mechanisms, and maintaining lipid and cholesterol balance. Additionally, the liver plays a crucial role in metabolizing xenobiotic compounds, including various medications.

In Ayurveda, the liver holds significant importance as the root of the *Raktavaha Srotas* (blood channels) and is closely associated with the *Pitta* dosha, which governs metabolic processes with the assistance of other doshas. According to Ayurvedic texts, *Ranjaka Pitta*, responsible for transforming *Rasa* (plasma) into *Rakta* (blood), resides within the liver.

Furthermore, when discussing the position of the *Agnyashaya* (seat of digestive fire) or *Pittashaya*, ancient Ayurvedic texts describe it as situated below the breast, between the *Amashaya* (stomach) and *Pakwashaya* (intestines). This location can be correlated with either the gall bladder or the liver itself, as both are involved in the secretion and storage of bile necessary for digestion. Considering the liver as the seat of *Pitta*, it also serves as the *Agni sthana* (site of digestive fire) due to its pivotal role in digestion and metabolism.

The onset of liver disorders often manifests with disturbances in appetite, which can be attributed to *mandagni* or weakened digestive fire. According to fundamental Ayurvedic principles, the equilibrium of the three body humors, or *Doshas*, is crucial for maintaining health. Even minor imbalances in *Doshas* can trigger a cascade of events, beginning with the disruption of *Agni*, or digestive fire. This initial imbalance affects the

processes of digestion and metabolism, subsequently impacting the condition of Dhatus, or body tissues, and ultimately influencing the overall vitality of an individual. Mandagni, characterized by poor digestive fire, is identified by revered Ayurvedic scholars as the primary causative factor for a myriad of diseases.

CONCLUSION

Ayurveda's comprehensive understanding of the liver's functions and its relationship with Pitta dosha provides valuable insights for maintaining and restoring liver health. By incorporating Ayurvedic principles into healthcare practices, we can develop holistic approaches to prevent and treat liver-related clinical conditions. With its focus on personalized medicine and lifestyle modifications, Ayurveda complements conventional treatments, offering a more comprehensive and effective approach to liver care.

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