



AN AYURVEDIC OUTLOOK ON HEPATO CELLULAR CARCINOMA

Sreekutty P.V¹, Shrinidhi R², Shubha P. U³, Chaithra S. Hebbar⁴

¹3rd Year P.G Scholar, ²Associate Professor, ³Assistant Professor, ⁴ Professor and Head
Department of P.G Studies in Agada Tantra, Sri Dharmasthala Manjunatheswara College of
Ayurveda, Udupi.

Corresponding Author: sreekuttysibiraj@gmail.com

<https://doi.org/10.46607/iamj1911112023>

(Published Online: November 2023)

Open Access

© International Ayurvedic Medical Journal, India 2023

Article Received: 09/10/2023 - Peer Reviewed: 25/10/2023 - Accepted for Publication: 10/11/2023.



ABSTRACT

Cell division is a normal process in multicellular organisms. Cells divide for growth, for the development of organs, for healing of wounds and also for the replacement of older and damaged cells. It is a very complex process which is controlled by a regulatory mechanism at both molecular and cellular level. When this regulation is lost due to any reason, the cells behave unusually and elude their control mechanism. Then the cells grow and divide in an uncontrolled manner, starts spreading throughout the body and interfering with the functions of normal tissues and organs. As a whole, this condition leads to cancer. Hepatocellular carcinoma, also known as hepatoma, is the most common type of primary malignancy in liver. In Ayurvedic literature, the terms *Granthi*, *Gulma* and *Arbuda* are used for specific tumour conditions. As there is no specific reference for *Yakrit Arbuda*, it can be considered under the *Avasta bheda* of different *Vyadhis* mentioned in classics.

Keywords: Hepatocellular carcinoma, *Yakrit roga*, *Gara*, *Visha*

INTRODUCTION

The global burden of liver cancer is substantial and is ranked as the sixth most commonly diagnosed cancer and the third most common cause of cancer death in

2020. It is a major cause of death in many countries, and the number of people diagnosed with liver cancer is predicted to rise. An estimated 1.3 million deaths

are predicted to occur in 2040, an increase of 56.4%. Efforts to reduce the incidence of preventable liver cancer should be prioritized. Primary liver cancer due to some causes is preventable if control efforts are prioritized and the predicted rise in cases may increase the need for resources to manage care of patients with liver cancer¹.

ETHIOLOGICAL DERIVATION

Yakrit is considered as an organ situated in *Kostha* and is one of the *Koshtanga* which is the seat of *Ranjaka pitta*². It is situated in the right side of *Udara* (abdomen) below the *Hridaya* (heart)². Below it is in relation to the part of small and large intestines (*Unduka*) where *Maladharakala* is situated. Sushruta considered *Yakrit* as originated from the *Rakta* and is maternal in origin³.

- Sanskrit - English dictionary by sir Monier Williams describes the origin of the word “*Yakrit*” is from the root “*Yakan*” which mean the liver.
- *Yakrit* is constitution of two words “*Ya*” means “activity”, “*Krit*” means “breakdown”. *Yakrit* is also used as synonym to the work “restoration.”⁴
- The word *Yakrit* is defined as- ‘*Yam Samyaman karoti iti yakrit*’ by Sabdastomahanidhi which means “to have control over”.
- As per this definition *Yakrit* is an organ which can control some physiological processes in the body.
- The word *Samanya* does not merely mean to control, but it has meanings such as to restrain, to hold on, govern, guide etc. indicating the specific capacity to accumulate something which means *Yakrit* is the organ that controls all the functions⁵.

YAKRIT VIKARA

The disease *Yakrita roga* for the first time was introduced by Bhavamishra in *Bhavaprakasha*, along with *Pleeha Roga* in *Pleehaykridadhikara Adhyaya*. *Swaroopa* of *Yakrit* is mentioned and said to be *Visheshayavyavaya* and it is said to be *Sthana* of *Ranjaka pitta*. Bhavamishra mentioned that all the *Hetu*, *Sampapti* and *Lakshana* of *Pleeha Roga* are also same for *Yakrita Roga*, only difference is that *Pleeha* lies in *Vamaparshwa* while *Yakrit* occupies the *Dakshina Parshwa*. The classification and the treatment of *Ya-*

krit Vikara should be done accordingly to *Pleeharoga* as mentioned in *Chikitsa Prakarana* of *Bhavaprakasha*. In *Yogaratanakara* as well as in *Bhaishajya Ratnavali* reference regarding *Yakritodara* is present. In addition to this only *Chikitsa* of *Yakrit Vikara* is explained in *Bhaishajya Ratnavali*⁶.

HEPATOCELLULAR CARCINOMA MANIFESTATION IN AYURVEDA VS MODERN

HCC, also referred to as hepatoma, is a type of epithelial cancer in liver, and the most common form of liver cancers in adults, usually age 50 or older⁷. HCC typically starts as several small cancer nodules at multiple sites in the liver rather than just a single large tumour. Men are two to four times more likely to develop liver cancer than women⁷. It occurs in the setting of chronic liver inflammation, and is most closely linked to chronic viral hepatitis infection (hepatitis B or C) or exposure to toxins such as alcohol, aflatoxin, Certain diseases, such as hemochromatosis and alpha 1-antitrypsin deficiency, markedly increase the risk of developing HCC. Metabolic syndrome and NASH are also increasingly recognized as risk factors for HCC. Most cases of HCC occur in people who already have signs and symptoms of chronic liver disease⁸. They may present with worsening symptoms or without symptoms at the time of cancer detection. HCC may present with non-specific symptoms such as abdominal pain, nausea, vomiting, or feeling tired. Some symptoms that are more closely associated with liver disease include yellow skin (also called jaundice), abdominal swelling due to fluid in the abdominal cavity, easy bruising from blood clotting abnormalities, loss of appetite, unintentional weight loss, abdominal pain, nausea, vomiting, or feeling tired⁸.

According to Ayurvedic literature, the *Nidanas* cause *Kaphapradhan Tridosha Prakopa* and *Agnimandhya* simultaneously are also responsible for *Dhatu Dushti* in *Rasa*, *Rakta*, *Mamsa* and *Medo Dhatu* and *Sroto Vaigunya* in *Mamsavaha*, *Raktavaha* and *Annavaha Srotas*. The pathological events taking place in srotas such as *Sanga*, *Vimargagamans*, *Atipravritti* and *Siragranti*. All the existing innumerable diseases will have one or more of this kind of events in disease

process. So, if the *Doshadusya Samurchana* between the *Kapha Pradhana Tridosha* and *Mamsa Dhatu* leads to *Mamsa Utsedha* than the characteristic features of *Mamsa Utsedha* are *Sthira, Avagadha, Mandarujayukta, Mahana, Analpamoola, Chiravrudhhi, Apaki* because of the *Samana guna* and dominance of the *Pruthvi mahabhuta*. If all these events take place at *Raktavaha srotomoola* i.e *Yakrit* then it leads to genesis of *Arbuda* in *Yakrit*⁹

HEPATOTOXICITY AND GARA VISHA

Liver is the primary site of biotransformation and detoxification of xenobiotics. The liver is expected not only to perform a physiological function but also to protect itself from hazards of toxic chemicals. These chemicals can be categorised under the term *Gara visha*, where it is the umbrella term used for all the combination of artificially prepared poisons. The effect of this depends on the potency of combination. In modern era *Gara Visha* is becoming more and more relevant as food adulteration, drug interaction, incompatible food, cosmetics, psychoactive drugs, etc. Whereas the symptoms of *Gara Visha* includes *Agnimandhya, Pandu, Jwara, Mahodara, Yakrit pleeha vikaras*.

Above mentioned toxins, after getting the body cannot be fully metabolized and it undergoes improper digestion and assimilation. The property of *Gara visha*, '*Kalatara avipaki*' can be considered here. Without proper excretion it remains in the body and liver being the organ which carries out the function related to metabolic process, synthesis and storage of various substances needed for the body, liver is subjected to potential damage from these.

VIRUDDHAHARA AS NIDANA

To maintain the *Sharcera Dhatu* in *Samyavasta, Sama / Hita Ahara* is essential¹⁰. Even though an individual is consuming *Hita Ahara*, if there is any alteration in *Matra, Kala, Kriya, Bhoomi, Deha, Dosha, Purusha* it leads to disease. Hence consumption of *Hitatama Ahara* is very important. Those *Ahara* which are *Deha Dhatu Pratyaneeka Bhuta* are considered as *Viruddha*. 18 types of *Viruddha's* are mentioned in Charaka samhita. These *Viruddhara* can lead to inflammation at molecular level. *Vir-*

uddha Bhojana further leads to *Agnidushti* and formation of *Ama*, which is *Visha Roopi* and leads to various types of *Dosha Prakopa*. Acharya Charaka in Atreya Bhadrakapiya mentions *Shotha* as one of the diseases produced by the consumption of *Viruddhara*¹⁰.

DISCUSSION

Hepatocellular carcinoma is the most common primary malignancy of liver in adults and is the common cause of death in people with cirrhosis. The majority of this disease occurs over pre-existing chronic liver cirrhosis but the increased changes in living conditions, food habits and sedentary lifestyle has emerged the disease into a silent killer category independent of cirrhosis. The present modifications in food habits, drug induced toxicity and other environmental toxicity has led to a dramatic rise in HCC even in non-alcoholics. The symptoms and pathogenesis in HCC can eventually be correlated with *Gara visa*.

The present lifestyle modifications and diet contribute a lot in diseases like HCC and our role in its treatment can be designed from its root level itself. Following regimens of *Dinacharya* and *Rithucharya* and *Shodhana Chikitsa* helps in mitigating *Dosha* and elimination of toxicity in our body. *Yakrit Roga Chikitsa* in Ayurveda mainly includes *Pitha Dosha Shamana, Raktha Prasadana* and drugs mentioned in the treatment mostly are *Shothahara, Anulomana* and *Dipana -Pachana* which help in correcting *Agni* and *Pitta Dosha* in our body. The basic treatment principles in *Gara Visa Chikitsa* along with *Yakrit Roga Samana* drugs prudently in combination can eradicate many of the diseases in liver that begin with a simple grade 1 fatty liver which may end up in cirrhosis or carcinoma.

REFERENCES

1. Rungay H, Arnold M, Ferlay J, Lesi O, Cabasag CJ, Vignat J, et al. Global burden of primary liver cancer in 2020 and predictions to 2040 [Internet]. Journal of Hepatology. Elsevier; 2022 [cited 2023Feb11]. Available from: [/https://www.journal-of-hepatology.eu/article/S0168-8278\(22\)03022-7/fulltext](https://www.journal-of-hepatology.eu/article/S0168-8278(22)03022-7/fulltext)

2. Mishra Brahma Shankar, Editor. Bhavaprakasha, Varanasi: Chaukambha Sanskrit Sansthan, 1993. p.364. Pp.824
3. Vaidya Jadavji Trikamji, Editor. Commentary Nibanda Sangraha of Dalhana of Sushruta Samhita of Sushruthi, Shareerasthana; Grabhavakrantishareena Chapter .Varanasi: Choukambha Sanskrit Sansthan, 2010 p.350. Pp. 823
4. *Ancient notion on yakrit vikara*. Academic.oup.com. (n.d.). Retrieved December 21, 2022, from <https://academic.oup.com/nsr/issue/9/10>.
5. Sushruta. Dalhanacharya Sushruta Samhitha. Udara roga chikitsa. Chaukambha Samskritha Samsthan. Varanasi; 2012,pp:822.
6. 4. *Ancient notion on yakrit vikara*. Academic.oup.com. (n.d.). Retrieved December 21, 2022, from/ <https://academic.oup.com/nsr/issue/9/10>
7. Pandit HM. identifying hepatocellular carcinoma (HCC) cells with cancer stem cell-like properties. [Internet]. ThinkIR: The University of Louisville's Institutional Repository. [Cited 2022Dec5]. Available from: <https://ir.library.louisville.edu/etd/2211/>
8. Hepatocellular carcinoma [Internet]. Wikipedia. Wikimedia Foundation; 2023 [cited 2023Feb11]. Available from: https://en.wikipedia.org/wiki/Hepatocellular_carcinoma
9. Nancy vargas, Edardo madrigal, Angel morales et al. Hepatoprotective effect of silmarin. World journal of hepatology. 2014, march, 27; 6(3): 144-49.doi: 10.4254/wjh.v6.13.144
10. Vaidya Jadavji Trikamji, Editor. Commentary Ayurveda Dipika of Chakrapanidatta of Charaka Samhita of Charaka, Sutra Sthana; Yajnapurusheeya. Chapter 25. Varanasi : Choukambha Sanskrit Sansthan; 2009. p.129. Pp.738

Source of Support: Nil

Conflict of Interest: None Declared

How to cite this URL: Sreekutty P.V et al: An ayurvedic outlook on hepato cellular carcinoma. International Ayurvedic Medical Journal {online} 2023 {cited November 2023} Available from: http://www.iamj.in/posts/images/upload/2783_2786.pdf