

Integrative Management of Hepatocellular Carcinoma through Ayurveda: A Case Report

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ABSTRACT

Hepatocellular carcinoma (HCC) is one of the most prevalent and fatal malignancies worldwide, often associated with chronic liver disease and progressive systemic deterioration. Despite advances in conventional oncology, patients frequently experience persistent symptoms and reduced quality of life due to disease burden and treatment-related adverse effects. This case report presents a 72-year-old male with HCC who continued to suffer from anorexia, nausea, weakness, and anemia despite chemotherapy. An integrative approach incorporating Ayurvedic principles resulted in improved hematological parameters, reduced inflammatory markers, enhanced liver function, and improved systemic well-being. Ayurveda contributed to immunomodulation, reduction of treatment-related adverse effects, and restoration of physiological balance. These findings highlight the potential role of Ayurveda as a supportive modality in integrative oncology.

Keywords: Arbuda, Ayurveda, Case report, Hepatocellular carcinoma, Immunomodulation, Integrative oncology, Liver function, Rasayana

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1. INTRODUCTION

Medical treatment, therefore, involves more than just curing the disease but the re-establishment of function and quality of life (1,2). In this respect, it is particularly applicable in chronic and life-threatening diseases like hepatocellular carcinoma where there is often progressive deterioration of the system even with oncology treatment (3,4).

HCC is the sixth most common type of cancer worldwide, ranking third among causes of death due to cancer; it is responsible for more than 800,000 mortalities per year (5,6). The malignancy generally develops against the background of chronic liver diseases like viral hepatitis, cirrhosis, and metabolic disorder (6,3). Even though chemotherapy, target therapy, and immunotherapy can help improve prognosis for these patients, there are many side effects of these drugs, including hepatotoxicity, fatigue, gut problems, and immunosuppression (3,4,7).

The conditions similar to malignancy are described in Ayurveda as *Arbuda*, and they include *Dosha Pradoshata*, *Agni Vikruti*, and *Dhatu Pradoshata*, especially *Mamsa* and *Rakta* (8,9). Apart from that, there are other principles such as *Mandagni* and *Ama*, which help to facilitate metabolism disorders as well as cell proliferation (8,10). Restoring body functioning, strengthening immunity, and treating metabolic diseases are important aspects of Ayurvedic therapy (1,11,12). Because of this, Ayurveda is a successful treatment for long-term conditions like HCC (10,13).

2. MATERIALS AND METHODS

Patient Information:

A 72-year-old man suffering from hepatocellular carcinoma with complaints of anorexia, nausea, general weakness, and anemia despite having received chemotherapy was referred to us for treatment. Imaging studies confirmed enlarged liver with a malignant growth on the right side and probable vascular invasion. Diabetes and hypertension had previously been diagnosed and were being treated. According to the clinical evaluation, the patient was generally feeble but had normal vital signs. He was primarily Vata-Pitta, Ama dosha was present, and gut physiology was disturbed, indicating a systemic metabolic disease, according to *Ashtavidha Pariksha*.

The integrative strategy included ayurvedic management in addition to the regular treatment. The objective of the treatment was to boost *Agni*, remove *Ama*, strengthen *Dhatu* physiology, and increase *Vyadhikshamatva* (immunity) in conjunction with liver and systemic wellness.

Timeline of study

The patient was assessed at baseline on December 27, 2022, and then again on January 11 and 26, 2023. During this time, there were considerable advancements in both clinical and laboratory settings.

Therapeutic Intervention (CARE Item)

In the treatment of the patient, an integrative technique has been used, which is a combination of modern medical treatment along with supportive Ayurvedic management.

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Ayurvedic intervention involved balancing Agni, reduction of Ama, improvement in Vyadhikshamatva (immune system) and improving liver functions.

The external application of Ayurveda includes: Sarvanga Snehana with Ksheerabala Taila and Swedan using Avagaha Sweda for seven days, Nabhi Poorana with Moorchita Tila Taila for seven days, and Shirodhara with Brahmi, Yashtimadhu, and Jatamansi Kwatha for seven days. This helped in relaxing the body and correcting metabolism as evident from the changes in Figure 1 and Figure 2.

Internal management included the use of curcumin, barley seeds, wheat grass, Rasayana drugs, along with modern medicines including Lenvatinib, Metformin with Glimepiride, Textasia, Rosuvastatin, and Telmisartan. This aided in better trend of liver enzymes as seen in Figure 3.

Diet modification included consumption of easy-to-digest food, barley and green gram preparations, seasonal vegetables, and foods beneficial for the liver, along with avoidance of heavy, fermented, and spicy food items.

Table 1: Therapeutic Interventions Administered

Category	Intervention	Duration/Dosage	Purpose
External Therapies	<i>Sarvanga Snehana with Ksheerabala Taila + Swedan (Avagaha Sweda)</i>	7 days	Improves circulation, detoxification
	<i>Nabhi Poorana with Moorchita Tila Taila</i>	7 days	Enhances digestion and metabolism
	<i>Shirodhara (Brahmi, Yashtimadhu, Jatamansi Kwatha)</i>	7 days	Reduces stress, promotes mental balance
Internal Ayurvedic Support	Curcumin Tablets	1-0-1 after food	Anti-inflammatory, hepatoprotective
	Barley Gran Tablets	1-0-1 after food	Improves digestion
	Wheatgrass Tablets	1-0-1 after food	Nutritional support
	Rasayana Tablets	2-0-2 after food	Immunomodulation
Conventional Medications	Lenvatinib	4 mg, 1-0-1	Targeted therapy
	Metformin + Glimepiride	0.5 mg, 1-0-0	Glycemic control
	Textasia	0-0-1	Supportive care
	Rosuvastatin	5 mg, 0-0-1	Lipid control
	Telmisartan	40 mg, 1-0-1	Blood pressure control

3. RESULTS

There were positive changes observed regarding the patient's health status in the management of his case. Appetite increased, nausea lessened, and his physical energy level also improved. There was a marked improvement in the hematology values, where hemoglobin levels rose from 9.8 to 12.7 gm/dL. Red blood cells have improved as well. It can be observed in Table 2 that there is a decreasing trend in the inflammatory values, where ESR decreased from 28 mm/hr to 11 mm/hr, and CRP decreased from 7 mg/L to 4.89 mg/L.

Table 2: Hematological and Inflammatory Parameters

Parameter	27/12/22	11/01/23	26/01/23
Hemoglobin	9.8	11.3	12.7
RBC	3.89	4.3	4.9
WBC	7800	6978	7460
Platelets	284000	345620	356780
ESR	28	18	11
CRP	7	5	4.89

Additionally, liver function measures showed improvements, with SGPT falling from 47.0 to 33.56 and SGOT from 31.0 to 24.9, indicating less inflammation and enhanced hepatocellular integrity (Table 3).

Table 3: Liver Function Test Parameters

Parameter	27/12/22	11/01/23	26/01/23
SGPT	47.0	40.5	33.56
SGOT	31.0	27.4	24.9
Albumin	3.8	4.2	4.3

The continuous rise in hemoglobin concentration over time can be seen in Figure 1, signifying betterment in anemia and overall body strength. The decreasing trend in the values of ESR and CRP, as seen in Figure 2, signifies a fall in inflammation. Likewise, the gradual fall in liver enzyme concentration can be seen in Figure 3.

Figures

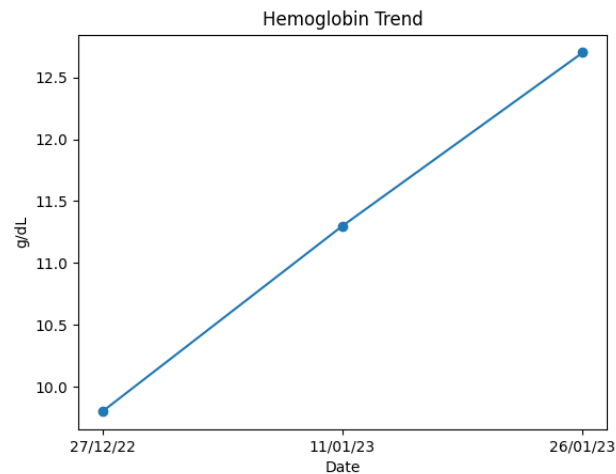


Figure 1: Trend of hemoglobin levels over the study period.

Hemoglobin levels have steadily increased from 9.8 g/dL to 12.7 g/dL in this line graph, suggesting improvements in anemia and overall systemic strength

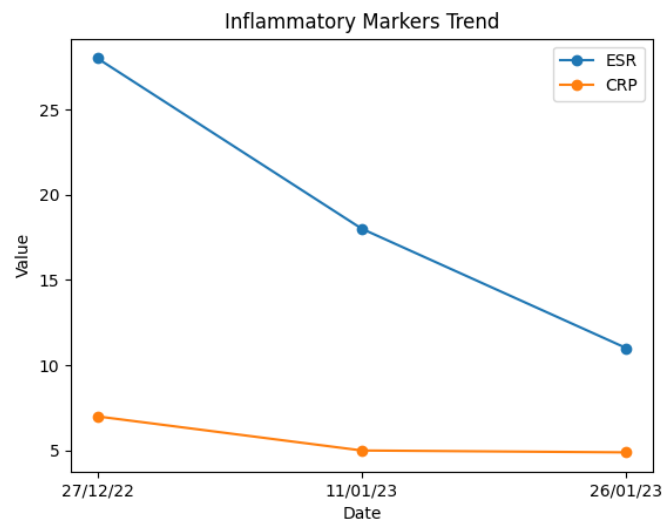


Figure 2: Trend of inflammatory markers (ESR and CRP).

This data shows a steady decline in ESR and CRP over time, which may indicate improved physiological health and less systemic inflammation.

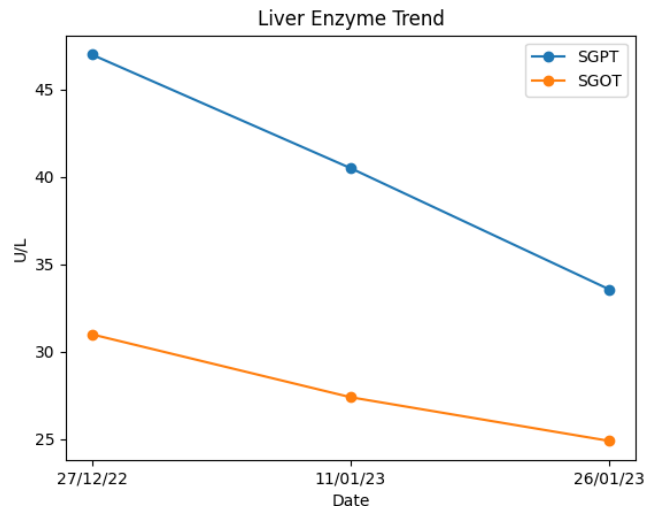


Figure 3: Trend of liver enzymes (SGPT and SGOT).

Improved hepatocellular function and decreased hepatic inflammation are suggested by this figure's progressive drop in liver enzyme values.

4. DISCUSSION

The Ayurvedic interpretation of HCC can be related to *Arbuda*, which includes the *tridoshic* derangement, vitiation of *Dhatu*, and *Srotorodha* (8,9). At the heart of this process lies *Mandagni*, resulting in the formation of *Ama* and impaired tissue physiology (8). In essence, this concept correlates with modern knowledge of chronic inflammation and metabolic disorders in the development of cancer (3).

The *Beeja-Kshetra Nyaya* explains the appearance of the disease due to genetic and environmental factors. This view coincides with modern oncology concepts (8). The role of *Vata* in cellular proliferation and *Kapha* in tumor growth contributes to further correlations (9).

One of the main principles of Ayurvedic medicine is increasing *Vyadhikshamatva* (immunity) to prevent disease occurrence (1). Rasayana therapy is well-known for its immunomodulatory effect, providing increased tissue nutrition and increased resistance to chronic diseases (11,12). Current scientific research confirms the role of Ayurvedic phytochemicals as immunomodulators (10,12).

The improvement in the activity of liver enzymes noted in the patient under examination suggests hepatoprotection. In addition, it is important to highlight that the curcumin molecule has been shown to demonstrate antioxidant, anti-inflammatory, and hepatoprotective properties in HCC patients (10,7). Another consequence of the therapy can be the reduction of its side effects, which manifested in improved appetite, decreased nausea, and increased energy levels. All of these characteristics are crucial in maintaining good quality of life when managing cancer. The Ayurvedic method ensures proper digestion and metabolism, leading to optimal nutrition and reducing the toxic load on the body (8,1). Metabolic regulation was achieved through dieting and following specific rules for food intake. This was done by the intake of easily digestible and fermented food which allowed keeping *Agni* and *Ama* formation under control (8).

Clinically speaking, this case is another good example of the importance of integrative oncology. Ayurvedic principles can be very helpful in the process of treating patients.

5. CONCLUSION

From the above discussion, we can clearly understand that the application of Ayurveda is beneficial as a supplementary therapy for hepatocellular carcinoma by boosting immune function, increasing liver function, and minimizing side effects. Through its emphasis on *Agni*, *Ojas*, and *Dosha* balance, it offers comprehensive treatment to increase the patient's ability and tolerate treatment and improve quality of life.

Patient Perspective

The patient reported subjective improvement in appetite, reduction in nausea, and enhanced overall strength and well-being during the course of management.

Informed Consent

Written informed consent was obtained from the patient for publication of this case report and associated clinical data.

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