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Integrated Approach for Management of Hepatocellular Carcinoma (HCC) With HBSAG Positive & Severe Jaundice: A Case Report

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Abstract: ***Hepatocellular carcinoma (HCC) is a major global health concern, particularly in patients with chronic hepatitis B virus (HBV) infection. This case study presents a 62-year-old male with HCC and HBsAg positivity who exhibited severe jaundice and was managed through an integrative approach combining conventional and Ayurvedic treatments. Significant clinical improvement was observed, emphasizing the potential benefits of integrative medicine in managing HCC-related complications. The combination of modern oncological treatment and traditional herbal remedies contributed to reducing the tumor burden, improving liver function, and alleviating symptoms. The case highlights the importance of a holistic approach in addressing liver cancer and its associated complications.***

Keywords: ***Hepatocellular Carcinoma, HCC, Ayurveda, Integrative Medicine, Jaundice, Lenvatinib, Hepatitis B, Herbal Therapy, Holistic Healing.***

I. INTRODUCTION

Hepatocellular carcinoma (HCC) is the most common primary liver malignancy and a leading cause of cancer-related mortality worldwide. Chronic HBV infection remains a major risk factor for HCC development, often leading to cirrhosis, hepatic dysfunction, and poor prognosis. Conventional management includes surgical resection, liver transplantation, transarterial chemoembolization, and targeted therapy with drugs like Lenvatinib. However, integrative medicine approaches, particularly Ayurveda, are increasingly being explored for their potential to enhance liver function, alleviate symptoms, and improve quality of life. This report highlights a case where an integrative approach demonstrated significant therapeutic benefits.

A. Case Report

A 37 years old married male a case of Hepato-Cellular Carcinoma approached the cancer consultation and Treatment Unit National Institute of Ayurveda Jaipur (OPD No. 33202200027847) on 09.09.2022 with chief complaints of appetite, nausea, vomiting, persistent hiccups, weight loss, weakness, and generalized yellowish discoloration. His medical history included chronic alcohol consumption and smoking for 20 years, contributing to hepatic damage. He had been undergoing treatment with oral Lenvatinib (4 mg) for the past year. No relevant family history. Thereafter he approached cancer consultation and Treatment Unit National Institute of Ayurveda Jaipur. On examination, the patient exhibited significant icterus.

B. Investigations

He was advised investigation USG and LFT.

C. Therapeutic Intervention

The patient received an Ayurvedic regimen alongside conventional therapy. Dietary modifications included easily digestible foods, increased hydration, and the elimination of alcohol and processed foods were started after examination in details are given in table 1.

II. RESULT & OBSERVATION

Patient was examined every 15 days follow up, though symptoms subsided within 2 months of the treatment and watch for USG & LFT, but same medicine continued for rest of the months as a precautionary measure. Abdominal ultrasound (USG) before treatment (21 August 2022) revealed hepatomegaly (17.0 cm) with multiple mixed echogenic ill-defined lesions in both liver lobes, the largest measuring 108 × 82 mm in the caudate lobe.

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Before and after treatment LFT observations are showed in table 2 and is illustrated in figure 1. This combination of medicines was continuously given for 5 months to the patient. Then he repeated USG Whole abdomen on 07 Jan 2023, which revealed mild liver size reduction (15.2 cm) and multiple well-defined hypoechoic lesions (largest 46 × 24 mm). The changes in USG whole abdomen are given in table 3 and illustrated in figure 2.

Table 1 Therapeutic intervention on first visit

Sr.	Medicine	Dose	Interval	Anupaan (taken with)
1	Vajra kshar Churna	2 gm	Twice a day after meals	Warm water
2	Bhumyamalaki Swarasa	10 ml	Twice a day empty stomach	-
3	Drakshavaleha	6 gm	Twice a day after meals	Warm milk
4	Arogyavardhini vati	500 mg	Twice a day after meals	Warm water
Pathya Ahar (food) The patient was given the following diet plan & daily schedule				
Sr.	Time	Diet plan		
1	Morning/Break fast	150 gm milk with turmeric 2 gram and seedless Draksha (dried grapes) 4–5 piece		
2	Afternoon/Lunch	Green leafy vegetables like ridged guard, bottle gourd, Indian round gourd, bitter gourd, spinach, cauliflower, tomato, amaranth leaves, fenugreek leaves. Cereals: green gram split, Dalia (porridge): wheat, barley, amaranth, buckwheat flour, swank paddy		
3	Evening	Apple, orange, coconut water, grapes, pomegranate		
4	Night/Dinner	Same as lunch		
5	At bed time	150 gm milk with turmeric 2 gram and Draksha 4–5 pieces		

Pathya Vihar (activities) The patient was given the following Daily Schedule: Yogasana – for 15 minutes; Pranayam (Anulom Vilom, Suryabhedi Pranayama, Nadi Shodhan Pranayam, Bhramari) – for 15 minutes.

Table 2 Before and After treatment changes in Liver Function Test

	Before treatment 7 Sept. 2022	After treatment 29 Sept. 2022	After treatment 30 Nov. 2022	After treatment 16 Dec. 2022
Bilirubin total	14.28 mg/dl	8.20 mg/dl	4.1 mg/dl	3.2 mg/dl
Bilirubin direct	7.2 mg/dl	3.9 mg/dl	1.9 mg/dl	1.2 mg/dl
Bilirubin indirect	7.0 mg/dl	4.3 mg/dl	2.2 mg/dl	2.0 mg/dl

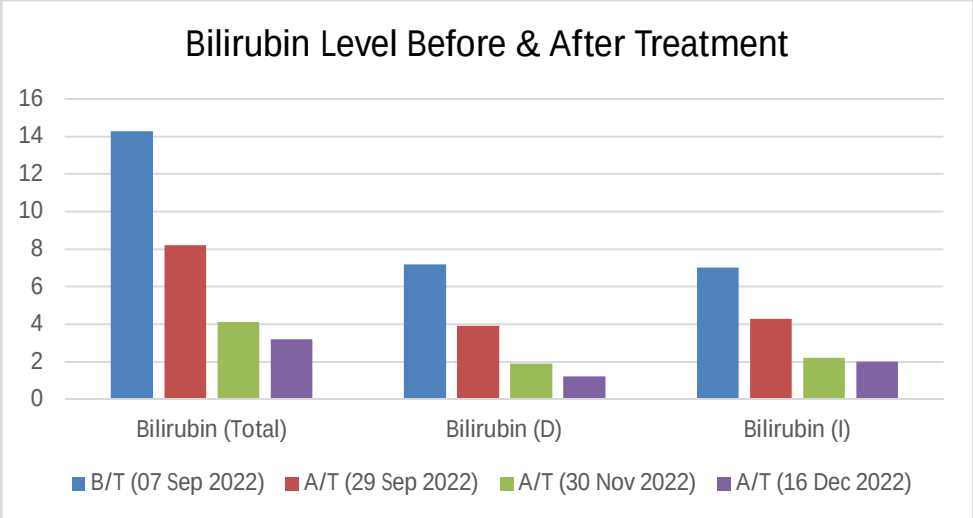


Figure 1 Bilirubin Level Before & After Treatment

Table 3 Before and After treatment changes in USG

	Before treatment Aug. 2022	After treatment Jan. 2023
Liver Size	17.0 cm	15.2 cm
Ill define Liver Mass	108 × 82 mm	46 × 24 mm

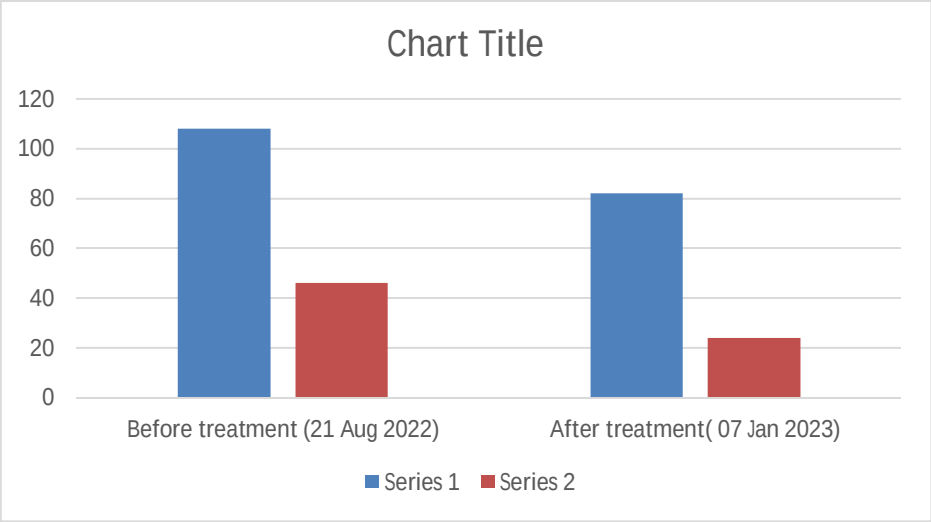


Figure 2 USG Abdomen Before & After Treatment

III. DISCUSSION

The mortality rate associated with hepatocellular carcinoma (HCC) has risen significantly over the past decade. Unfortunately, a clinically effective and universally successful treatment for HCC patients remains unavailable.[1]

Several therapeutic protocols are employed in the management of hepatocellular carcinoma (HCC), including surgical resection, ablation, chemotherapy, and embolization. However, the application of these treatments is often limited by their adverse effects, the emergence of chemoresistance, and procedural complexities. Given the restricted treatment options beyond surgery and the generally poor prognosis of HCC, there is an urgent need for additional therapeutic strategies to improve patient survival and quality of life. In this context, complementary and alternative medicine (CAM) has gained attention as a potential approach to enhance the efficacy of conventional anticancer therapies while minimizing their toxic side effects.[2]

In Ayurvedic parlance, Hepatocellular Carcinoma (HCC) may be correlated with advanced Yakrit Vikara (liver disorders), Kumbhkamala (obstructive jaundice), Gulma (abdominal mass), and Granthi (tumor-like conditions), caused by chronic vitiation of Pitta and Kapha doshas along with Raktadushti (vitiation of blood) and Dhatukshaya (tissue depletion). The integrative Ayurvedic approach in this case incorporated four classical formulations—Bhumyamalaki (Phyllanthus niruri Linn.), Arogyavardhini Vati, Vajrakshar Churna, and Drakshavaleha—which together worked in a synergistic manner to alleviate disease pathology and enhance the patient's quality of life.

Bhumyamalaki (Phyllanthus niruri Linn.) is renowned in Ayurveda as a potent Yakrit-Rasayana (hepatoprotective and rejuvenative herb). It exhibits Pittahara (Pitta-pacifying), Raktashodhaka (blood purifying), and Lekhana (scraping) properties, aiding in the detoxification of the liver. Its Deepana-Pachana (digestive stimulant and metabolic corrective) action helps prevent the formation of Ama (toxins), a key factor in the pathogenesis of tumors. Modern studies validate its antioxidant, anti-inflammatory, antiproliferative, and hepatoprotective effects, supporting its role in mitigating hepatic damage and arresting carcinogenesis [3-5].

Arogyavardhini Vati is a classical herbo-mineral formulation indicated for Yakrit Vikara (liver diseases), Gulma (abdominal lump), and Pandu (anemia). It acts as a Deepana-Pachana (digestive stimulant), Raktashodhaka (blood purifier), Medohara (fat-reducing), and Rasayana (rejuvenative) formulation. Ingredients like Katuki (Picrorhiza kurroa) and Tamra Bhasma (copper calx) stimulate liver metabolism, promote bile flow, and enhance hepatocellular function. It reduces hepatic congestion and inflammatory mediators, thereby halting disease progression. Modern research highlights its role in liver regeneration and cytoprotection[6-8].

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Vajrakshar Churna, comprising Shuddha Tankana, Sajjikshara, Shunthi, Maricha, and Pippali, primarily exerts Agni Deepana (digestive fire stimulation), Lekhana (scraping), Kaphavatahara (Kapha-Vata pacifying), and Shothahara (anti-inflammatory) actions. In HCC, where digestion and metabolism are compromised, it aids in detoxification, reduces hepatic inflammation, and prevents accumulation of metabolic waste. Additionally, its mild alkalizing effect may help reduce oxidative stress, supporting hepatocyte integrity[9,10].

Drakshavaleha is a Rasayana Avaleha (rejuvenative herbal jam) prepared mainly from Draksha (Vitis vinifera), Dhatri (Emblica officinalis), Pippali, Maricha, Shunthi, and honey. It exhibits Pittahara, Raktaprasadana (blood-purifying), Balya (strength-promoting), and Ojovardhaka (immunity-enhancing) properties. It nourishes depleted tissues (Dhatus), corrects digestive disturbances, reduces oxidative stress, and strengthens immunity. The high antioxidant content of Draksha and Dhatri helps neutralize free radicals and supports liver cell regeneration[11-13].

Post-treatment assessments demonstrated a reduction in liver size, improved liver function markers, and symptomatic relief. The reduction in lesion size suggested a positive response to the combined treatment approach. Clinically, the patient reported improved appetite, reduced nausea and vomiting episodes, and increased overall energy levels. The integration of Ayurveda with modern oncology showed potential in enhancing therapeutic outcomes, minimizing side effects, and promoting holistic healing.

Although promising, further research, including controlled clinical trials, is necessary to validate these findings and establish standardized protocols for integrative HCC management.

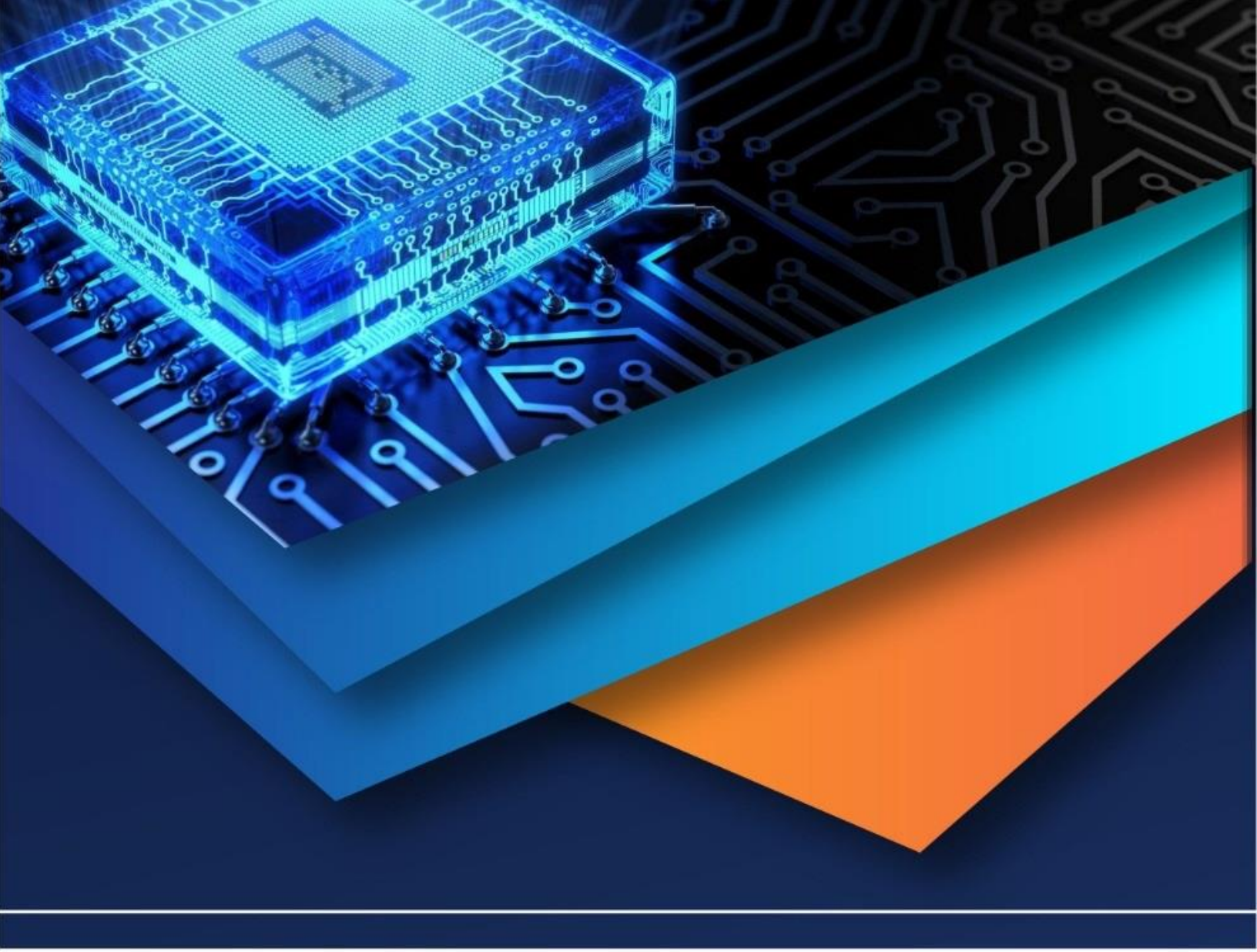
IV. CONCLUSION

The signs & symptoms of patient of HCC has been subsided within 2 months and there were no obvious abnormal changes found in USG abdomen and LFT. Thus, Ayurvedic Treatment will be effective in controlling of regrowth of HCC and avoidance of recurrence. Although much more research is needed to confirm the findings.

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