



## Ayurvedic Management of Yakrit Vidradhi (Liver Abscess) – A Case Report

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### ABSTRACT:

The liver abscess is the most frequent visceral abscess caused by a parasite or bacterial infection in low and middle-income countries. A liver abscess can cause fever, chills, night sweats, malaise, nausea or vomiting, right shoulder ache, right upper quadrant pain, cough, dyspnea, anorexia, etc. A 20 years old male patient presented with symptoms of fever, chills, malaise, right shoulder pain, and right upper quadrant pain. The patient was treated with *Virechan Karma* (therapeutic purgation) followed by oral Ayurvedic medicines such as *Varunadi Kwatha*, *Kanchanar Guggulu*, and *Aarogyavardhini Vati*. *Pathya-apathy* (wholesome-unwholesome diet) based on Ayurveda perspectives was also advised to the patient. The total duration of the treatment was four months, and follow-up was done for one month. Improvement was assessed based on relief in the symptoms and abdomen USG. Complete relief in all symptoms was noted after completion of the treatment. The USG findings revealed a reduction in hypochoic lesion to size 5.1\*5.1 cm with calcified margins in the right lobe segment VIII of the liver. Any complications or adverse events due to treatment were not observed during the treatment period. This case report demonstrates the effectiveness of Ayurvedic approaches in managing Liver abscesses.

**Keywords** – Ayurveda, case report, Liver abscess, *Virechana*, *Yakrit Vidradhi*,

### INTRODUCTION

A liver abscess is a pus-filled mass in the liver that can occur due to hepatic injury or an intra-abdominal infection disseminated by the portal vein.<sup>1</sup> Liver abscess can be broadly divided into categories such as amoebic and pyogenic.<sup>2</sup> A pyogenic abscess is a collection of pus having numerous inflammatory cells, primarily neutrophils and

tissue debris.<sup>3</sup> Because the liver receives blood circulation from both the systemic and portal circulations, it is more vulnerable to infections and abscesses.<sup>4</sup> Another risk factor for the liver is proximity to the gallbladder. Abscesses could also be caused by parasites, malignancies, foreign material, or complications from liver transplantation.<sup>5,6</sup>



Pyogenic Liver Abscesses (PLAs) have a global distribution; however, the incidence differs considerably between regions, spanning more than 900 incidences in Asian countries in the last ten years.<sup>7</sup> The annual incidence rate has been estimated to be around 2.3 cases per 100,000 individuals. Males are more prone to be affected by PLAs than females.<sup>8</sup> Diabetes, cirrhosis, male gender, the elderly, immunocompromised conditions, and people using proton pump inhibitors are all risk factors for developing liver abscesses.<sup>9</sup> Symptoms of a liver abscess include fever, chills, night sweating, malaise, nausea, vomiting, right shoulder pain, right upper quadrant pain, cough, dyspnea, anorexia, and recent unexplained weight loss. An abdominal ultrasonography (USG) is the initial diagnostic test of choice to detect hyper or hypoechoic lesions in the liver with occasional debris or septation. Abscess drainage and antibiotic therapy are the main lines of treatment for PLAs.<sup>10</sup>

The disease PLAs can be correlated with *Yakrit Vidradhi*, one of the ten *Antarvidradhi* (internal abscess) narrated in Ayurveda. In Sushruta Samhita, diagnosis and treatment of liver abscess have been described with sufficient details.<sup>11</sup> A case report of a patient suffering from a liver abscess and treated with Ayurvedic therapies is presented in this study. This case resembles *Pittaja/Raktaja Vidradhi* (abscess due to perturbed *Pitta/Rakta*). The uniqueness of this case report is that the patient with a liver abscess was treated following the guidelines suggested in the Ayurveda treatise.

#### **Patient Information**

A 20 years old male patient was suffering from fever, chills, nausea, excessive thirst, abdominal pain, and occasional vomiting for a week. The symptoms were initially mild, but their severity increased gradually. The sickness had a severe manifestation when the patient came for Ayurvedic treatment. The patient had taken analgesic and antispasmodic drugs (Mefenamic acid 250 mg and Dicyclomine HCL 10 mg; as and when needed) without consultation with a physician. The patient worked as a driver and occasionally drank alcohol. The patient had no reported history of any chronic disease or surgeries.

#### **Clinical Findings:**

On examination, the patient's body temperature was 102.3 °F; his blood pressure was 118/82 mmHg, and his pulse rate was 86/min. During the examination, the patient was well conscious and responded satisfactorily. On inspection there was no scar, protrusion or prominent vein shown over abdomen. On palpation of the abdomen, mild tenderness was observed in the right hypochondriac region, though no

organomegaly was noted. On percussion dull sound was present over right hypochondriac region. There was normal bowel sound heard on the auscultation over abdomen. *Ashtavidha Pariksha* (eightfold examination of the patient) was done and mentioned in Table no.1. **Timeline:** The timeline of the case report is depicted in table 2.

#### **Diagnostic Assessment**

The diagnosis was made by laboratory investigations such as USG abdomen, Complete Blood Count (CBC), and Liver Function Tests (LFT). The USG findings revealed a hypoechoic lesion of size 8.7\*7.7\*7.3 cm; a volume of 259.9 cc in the right lobe, segment VIII of the liver. Biomarkers of CBC and LFT were in the normal range. Based on the USG findings, the diagnosis of the liver abscess was decided. Due to the patient's financial constraints, a fine needle biopsy could not be performed to differentiate between PLAs and amoebic liver abscesses. From Ayurveda's perspective, this condition correlates with *Yakrit Vidradhi* (liver abscess). (Tables 4 and 5)

#### **Therapeutic Intervention**

As the liver is the site for *Pitta Dosha* and *Rakta Dhatu*, treatment was planned according to *Pitta/Raktaja Vidradhi* (abscesses due to vitiated *Pitta/Rakta*). The therapy includes *Virechana Karma* (therapeutic purgation) [Table 3; Figure 2] followed by oral medications such as *Varunadi Kwath* 20 ml to be taken on an empty stomach in the morning; *Aarogyavardhini Vati* (250 mg), two tablets twice daily with lukewarm water, after the meal and *Kanchanar Guggulu* (250 mg), two tablets twice daily with lukewarm water, after dinner [Table 2]. The total duration of treatment was four months. Follow-up was taken after every two weeks for a month. Advises related to *Pathya-Apathya* (wholesome-unwholesome diet) were given during the treatment and follow-up period.

#### **Pathya (wholesome dietary regimen and activities):**

The patient was advised to take an ample amount of green gram (*Vigna radiata* (L.) R. Wilczek) boiled and roasted form with *Trikatu Churna* (powder made up of dried rhizome of *Zingiber Officinalis* Ros., dried fruit of *Piper longum* L., and *Piper nigrum* L.), soup made from green gram (*Macrotyloma uniflorum* (Lam.) Verdc.), *Saindhav Lavan* (rock salt) and barley (*Hordeum vulgare* L.) or wheat (*Triticum aestivum* L.). The patient was advised to eat a dish prepared from drumstick (*Moringa oleifera* Lam) and Indian plum (*Ziziphus mauritiana* Lam.) and to take jaggery with *Shunthi Churna* (*Zingiber officinale* Ros.) in 1:1 proportion after the meal. Advises were also given to, the patient is to take sufficient rest and

perform *Pranayama* (control of breath) such as *Anuloma Viloma*, *Bhramari*, and chant *Omkara* for 10 minutes in the morning.

**Apathya (unwholesome dietary regimen and activities):**

The patient was advised to strictly prohibit sour, salty, oily food items which are heavy to digest, green leafy vegetables, meat, milk, and curd. The patient was likewise recommended to avoid traveling and performing strenuous physical activities, and day sleep was also proscribed. [Figure 1]

**Method of Virechana Karma (therapeutic purgation):**

*Deepana* (appetizer) and *Pachana* (digestives) with *Hariatki Churna* (*Terminalia chebula* Retz.)-2gm and *Shunthi Churna* (*Zingiber Officinalis* Ros.) 2 gm twice a day, half an hour before meals, with lukewarm water, were done for three days; from the fourth day, *Snehapana* (internal oleation) was done with *Panchatikta Ghrita* (30ml) for the next five days in an increasing dose (10ml per day) as per *Koshtha* and *Agni*. On the 9th day, *Sarvanga Abhyanga* and *Swedana* (external oleation and fomentation) were performed for the next three days. On the 12th day, *Virechaka Kashaya* was administered on an empty stomach. The total number of *Vega* (defecation) was 26 [*Kaphanta* (when *Kapha* is expelled at the end)] with appropriate *Samyak Virechan Lakshana* (signs of proper therapeutic purgation). After *Virechana*, *Sansarjana Karma* (post-therapy dietetic regimen for revival) was advised for seven days. [Figure 2] (Table 3)

**Follow-Up And Outcomes**

Follow-up was taken for one month on a fortnight basis, during which clinical assessment was done based on the improvement of the patient's symptoms and the findings of the USG abdomen. These parameters showed improvement at the end of four months (Tables 3 and 4). On 20th August 2021, the size of the hepatic lesion was 8.7\*7.7\*7.3 cm, and the volume was 259.9 cc; on 13th October 2021, it reduced to 6.0\*5.8\*5.7 cm; the volume was 105.6 cc. An old healed abscess with calcified margins was observed on 29th December 2021 (Figure 3). No complications, new symptoms, or adverse events were observed during the entire treatment and follow-up period. Clinical adherence was assessed using the medicine dosage history provided by the patient.

**DISCUSSION**

Sushruta has described ten types of *Antarvidradhi* (internal abscess) and included *Yakrit Vidradhi* (liver abscess) as one.<sup>12</sup> In the same context, Sushruta has mentioned

predicting *Doshik* involvement in the pathogenesis of *Antarvidradhi* based on similarity with characteristics of *Bahya Vidradhi* (external abscess). Since the symptoms in the studied case were similar to *Paittik/Raktaja Vidradhi* (abscess due to perturbed *Pitta/Rakta*), it was treated based on the principles of *Paittika/Raktaja Vidradhi*.

*Virechana* is appreciated in *Shashtiupkrama* (sixty therapeutic measures for wounds) for both *Pitta Pradhana Vrana* (wound due to perturbed *Pitta Dosh*)<sup>13</sup> as well as *Vidradhi Chikitsa* (treatment of abscess).<sup>14</sup> In this case, there were two medications, *Kanchanar Guggulu*<sup>15</sup> and *Varunadi Kashayam*,<sup>16</sup> which were prescribed for *Vidradhi Chikitsa*. *Aarogyavardhini Vati* is another well-known remedy for liver disorders.

Cholangitis is responsible for almost half of all bacterial cases of liver abscess.<sup>17</sup> Bacteraemia of the hepatic artery or portal vein, diverticulitis, cholecystitis, or penetrating trauma are less likely reasons.<sup>18</sup> Despite *E. coli*, *Klebsiella*, *Streptococcus*, *Staphylococcus*, and anaerobic organisms being the most widespread, infections are very often polymicrobial. Pyogenic liver abscesses are commonly associated with bowel content leakage and peritonitis. Bacteria travel to and lodge in the liver via the portal vein. Furthermore, the infection can emerge in the biliary system.<sup>19,20</sup>

*Kanchanar Guggulu* is primarily composed of *Kanchanara* and *Guggulu*. Additionally, it has *Triphala* (combination of three myrobalans viz. *T. chebula*, *T. bellarica*, and *E. officinalis*) and *Trikatu* (combination of *Z. Officinalis*, *P. longum*, and *P. nigrum*). *Guggulu* (*C. mukul*) possesses substantial antibacterial activity against Gram-positive bacteria.<sup>21,22</sup> Myrrhanol A, a triterpene isolated from *Guggulu*, has a potent anti-inflammatory effect on exudative pouch fluid, angiogenesis, and granuloma.<sup>23</sup> *Kanchanar* (*B. variegata* L.) possessed excellent antibacterial properties.<sup>24</sup> The ethanolic extract of *B. variegata* stem bark exhibited antimicrobial activity.<sup>25</sup> The anti-inflammatory efficacy of a novel flavonol glycoside (5,7,3,4-tetrahydroxy-3-methoxy-7-o—L-rhamnopyranosyl (13) —o—d-galactopyranoside) of *B. variegata* has been observed.<sup>26</sup> *Triphala* aqueous extracts are potent against *E. coli* and *S. aureus*.<sup>27</sup> *Triphala* suppressed the proinflammatory cytokines Tumor Necrosis Factor-  $\alpha$  (TNF-  $\alpha$ ). Furthermore, it decreased hepatic damage, as revealed by decreased ALP, ALT, and AST levels and substantiated by histological observations.<sup>28</sup> *Triphala* is remarkably efficient when used topically and has been

shown to aid wound healing.<sup>29</sup> *Triphala* also have antimicrobial, anti-inflammatory, and wound ameliorative effects.<sup>30</sup>

*Katuki* is half of the content of *Aarogyavardhini Vati*. The aqueous extract of *Kutki* (*P. Kurrah*) roots exhibited moderate antibacterial activity against *Staphylococcus aureus*, *salmonella typhi*, and significant attenuation of *E. coli*.<sup>31</sup> Its anti-inflammatory effects are ascribed to the apocynin in element, which has been found to exhibit potent anti-inflammatory properties in addition to limiting neutrophil oxidative burst.<sup>32</sup> The hepatoprotective effect of a hydroalcoholic extract of the *Varuna* plant (*C. nurvala*) against hepatotoxicity induced by carbon tetrachloride reveals enhanced antioxidant enzymes in granuloma tissue promoting wound repair and regeneration.<sup>33</sup>

## CONCLUSION

Ayurvedic medicines, *Virechana Karma*, and proper *Pathya-apthya* effectively treat a liver abscess. Further research with a large enough sample size and detailed research methodologies is required to verify and substantiate the role of Ayurveda interventions in treating a liver abscess.

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**Table No.1: Ashtavidha Pariksha (eightfold examination of the patient)**

Sr. No	Examination	Findings
1	<i>Nadi</i> (pulse)	<i>Vatika</i>
2	<i>Mootra</i> (urine)	<i>Peeta Varna</i> (reddish yellow in colour)
3	<i>Mala</i> (faeces)	<i>Samaja</i> (associated with <i>Aama</i> )
4	<i>Jhwa</i> (tongue)	<i>Kaphaja</i> (white, sticky)
5	<i>Sabdham</i> (voice)	<i>Aspashta</i> (weak)
6	<i>Sparsham</i> (touch)	<i>Ushna</i> (hot), <i>Ruksha</i> (dryness);
7	<i>Druka</i> (eyes and vision)	<i>Arun Varna</i> (pinkish discoloration), <i>Antarpravishta</i> (sunken)
8	<i>Akriti</i> (general body built)	<i>Madhyam</i> (moderate).

**Table 2: Timeline of the studied case**

S.N.	Date	Signs & Symptoms	Investigations	Managements
1.	August 2021	The onset of rising body temperature, chills, nausea, abdominal pain, and occasional vomiting	-	-
2.	18 <sup>th</sup> August 2021 [First visit to the hospital]	<b>Symptoms-</b> The intensity of the all the above symptoms increases <b>Signs-</b> • Mild tenderness in right Hypochondric region	-	<ul style="list-style-type: none"> <li>• <i>Varunadi Kwath</i> 20 ml. empty stomach in the morning</li> <li>• <i>Aarogyavardhini Vati</i> (250 mg) - 2 tablets twice daily with lukewarm water, after meals.</li> <li>• <i>Kanchanar Guggulu</i> (250 mg) - 2 tablets twice daily with lukewarm water after meals.</li> </ul>
3.	20 <sup>th</sup> August 2021	-	<ul style="list-style-type: none"> <li>• <b>USG (Abdomen)-</b> Hypochoic lesion of size 8.7*7.7*7.3 cm. vol. 259.9 cc in right lobe of liver segment VIII</li> </ul>	-
4.	23 <sup>rd</sup> August 2021	-	<ul style="list-style-type: none"> <li>• SGOT- 21.44 mg/dl</li> <li>• SGPT-28.63 mg/dl</li> <li>• TLC – 7,600/mm<sup>3</sup></li> </ul>	-
5.	25 <sup>th</sup> August 2021	<ul style="list-style-type: none"> <li>• No relief in symptoms, and the sign also persist.</li> </ul>	-	The patient got IPD admission for <i>Virechana Karma</i> (therapeutic purgation)
6.	13 <sup>th</sup> September 2021 [discharged from hospital]	<ul style="list-style-type: none"> <li>• Fever and chills subsided.</li> <li>• Relief in nausea, frequency of abdominal pain, and vomiting.</li> <li>• Tenderness in the right hypochondriac region was relived.</li> </ul>	-	<ul style="list-style-type: none"> <li>• <i>Varunadi Kwath</i> 20 ml. empty stomach in the morning</li> <li>• <i>Aarogyavardhini Vati</i> (250 mg)- 2 tablets twice daily with lukewarm water, after meals.</li> <li>• <i>Kanchanar Guggulu</i> (250 mg)- 2 tablets twice daily with lukewarm water after meals.</li> </ul>

7.	27 <sup>th</sup> September. 2021	<ul style="list-style-type: none"> <li>• Vomiting subsided.</li> <li>• Occasional abdominal pain and nausea.</li> <li>• Tenderness in the right hypochondriac region was subsided.</li> </ul>		<ul style="list-style-type: none"> <li>• <i>Varunadi Kwath</i> 20 ml. empty stomach in the morning</li> <li>• <i>Aarogyavardhini Vati</i> (250 mg)- 2 tablets twice daily with lukewarm water, after meals.</li> <li>• <i>Kanchanar Guggulu</i> (250 mg)- 2 tablets twice daily with lukewarm water after meals.</li> </ul>
8.	13 <sup>th</sup> October 2021	-	<ul style="list-style-type: none"> <li>• <b>USG (Abdomen)-</b> Hypochoic lesion of size 6.0*5.8*5.7 cm. vol. 105.6 cc in right lobe of liver segment VIII</li> </ul>	-
9.	14 <sup>th</sup> October 2021	<ul style="list-style-type: none"> <li>• Occasional mild abdominal pain and nausea</li> </ul>	-	<ul style="list-style-type: none"> <li>• <i>Varunadi Kwath</i> 20 ml. empty stomach in the morning</li> <li>• <i>Aarogyavardhini Vati</i> (250 mg)- 2 tablets twice daily with lukewarm water, after meals.</li> <li>• <i>Kanchanar Guggulu</i> (250 mg)- 2 tablets twice daily with lukewarm water after meals.</li> </ul>
10.	28 <sup>th</sup> October 2021	<ul style="list-style-type: none"> <li>• Occasional mild abdominal pain and nausea</li> </ul>	-	<ul style="list-style-type: none"> <li>• <i>Varunadi Kwath</i> 20 ml. empty stomach in the morning</li> <li>• <i>Aarogyavardhini Vati</i> (250 mg)- 2 tablets twice daily with lukewarm water, after meals.</li> <li>• <i>Kanchanar Guggulu</i> (250 mg)- 2 tablets twice daily with lukewarm water after meals.</li> </ul>
11.	11 <sup>th</sup> November 2021	<ul style="list-style-type: none"> <li>• Occasional mild abdominal pain and nausea</li> </ul>	-	<ul style="list-style-type: none"> <li>• <i>Varunadi Kwath</i> 20 ml. empty stomach in the morning</li> <li>• <i>Aarogyavardhini Vati</i> (250 mg)- 2 tablets twice daily with lukewarm water, after meals.</li> <li>• <i>Kanchanar Guggulu</i> (250 mg)- 2 tablets twice daily with lukewarm water after meals.</li> </ul>
12.	25 <sup>th</sup> November 2021	Relief in abdominal pain and nausea	-	<ul style="list-style-type: none"> <li>• <i>Varunadi Kwath</i> 20 ml. empty stomach in the morning</li> <li>• <i>Aarogyavardhini Vati</i> (250 mg)- 2 tablets twice daily with lukewarm water, after meals.</li> <li>• <i>Kanchanar Guggulu</i> (250 mg)- 2 tablets twice daily with lukewarm water after meals.</li> </ul>

13.	9 <sup>th</sup> December 2021	Relief in abdominal pain and nausea No fresh complaints.	-	<ul style="list-style-type: none"> <li>• <i>Varunadi Kwath</i> 20 ml. empty stomach in the morning</li> <li>• <i>Aarogyavardhini Vati</i> (250 mg)- 2 tablets twice daily with lukewarm water, after meals.</li> <li>• <i>Kanchanar Guggulu</i> (250 mg)- 2 tablets twice daily with lukewarm water after meals.</li> </ul>
14.	23 <sup>rd</sup> December 2021	<ul style="list-style-type: none"> <li>• Pain in the abdomen and nausea subsided.</li> <li>• No fresh complaints.</li> </ul>	-	<ul style="list-style-type: none"> <li>• Medications ceased.</li> <li>• Only <i>Pathya-apathya</i> continues</li> </ul>
15.	29 <sup>th</sup> December 2021	-	<b>USG (Abdomen)-</b> Hypoechoic lesion in liver of size 5.1*5.1 cm. with calcified margins. Old healed abscess at right lobe of the liver .	-
16.	6 <sup>th</sup> January 2022 (First follow-up)	No fresh complaints/complications.	-	Advised to continue <i>Pathya-apathya</i> for two more weeks.
17.	20 <sup>th</sup> January 2022 (Second follow-up)	No fresh complaints/complications.	-	Treatment terminated.

**Table 3: Drugs and dosage forms used in Virechana Karma.**

Procedure	Drug & dosage form	Duration
<i>Deepana and Pachana</i> (Improvement of digestion and metabolism)	<i>Hariatki Churna</i> ( <i>T. chebula</i> Retz.)-2gm + <i>Shunthi Churna</i> ( <i>Z. officinalis</i> Ros.) 2 gm thrice a day with lukewarm water after meal.	Three days
<i>Snehapana</i> (therapeutic internal oleation)	<i>Panchatikta Ghrita</i> (as per <i>Koshtha and Agni</i> ) in increasing dose.	Five days
<i>Abhyanga and Vashpa Svedana</i> (therapeutic external oleation and therapeutic fomentation)	<i>Laghu Visagarbha Taila</i> , For <i>Vashpa Sveda Dashamoola Kwatha</i> was used.	Three days
<i>Virechana Karma</i> (Bio-purification therapy)	<i>Nishotha Churna</i> ( <i>Operculina turpethum</i> (L.))10gm <i>Triphala Kwatha</i> 100ml <i>Draksha Kwatha</i> ( <i>Vitis vinifera</i> Linn.) 100ml	
<i>Sansarjana Krama</i> (post-therapy dietetic regimen for revival)	Regulatory diet regimen as per <i>Shuddhi</i>	Seven days

**Table 4: Criteria of the symptomatic assessment.**

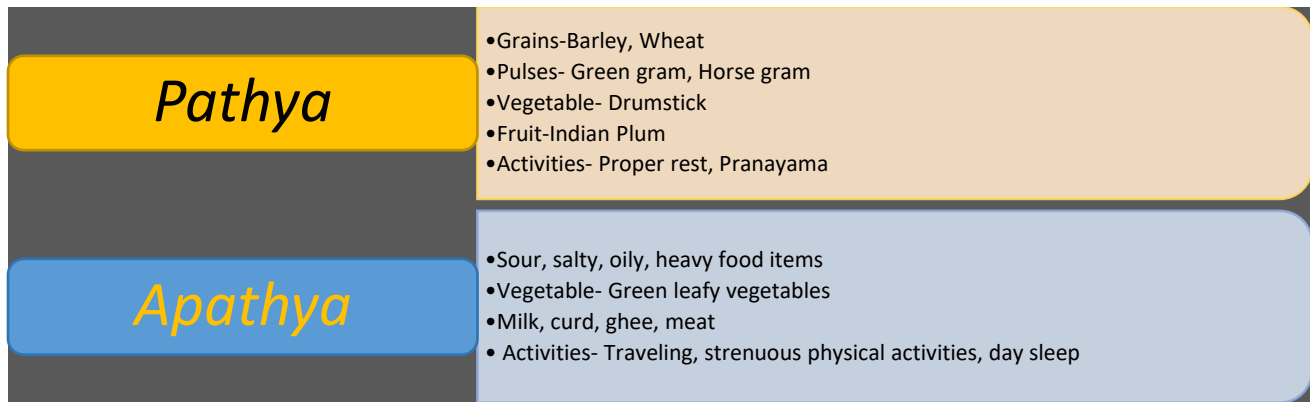
Severity level	Gradation	Scale
0	Absent	0
+	Mild	1
++	Moderate	2
+++	Severe	3
++++	Agonising	4



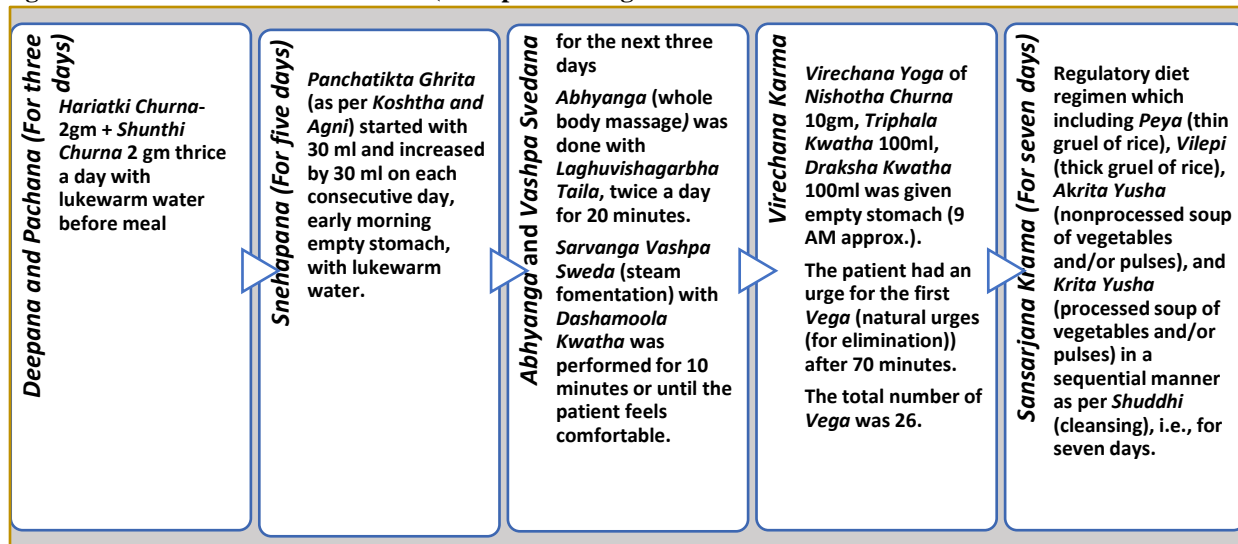
**Table 5 : Assessment of symptoms of the patient during the study.**

Symptoms	18 <sup>th</sup> Aug. 2021	25 <sup>th</sup> Aug. 2021	13 <sup>th</sup> Sep. 2021	27 <sup>th</sup> Sep. 2021	14 <sup>th</sup> Oct. 2021	28 <sup>th</sup> Oct. 2021	11 <sup>th</sup> Nov. 2021	25 <sup>th</sup> Nov. 2021	9 <sup>th</sup> Dec. 2021	23 <sup>rd</sup> Dec. 2021	First follow up	Second follow up
Fever	3	3	0	0	0	0	0	0	0	0	0	0
Chill	3	3	0	0	0	0	0	0	0	0	0	0
Abdominal pain	3	3	2	1	1	1	1	1	1	0	0	0
Tenderness in right hypochondriac region	3	3	2	0	0	0	0	0	0	0	0	0
Nausea	2	2	2	1	1	1	1	0	0	0	0	0
Vomiting	2	2	1	0	0	0	0	0	0	0	0	0

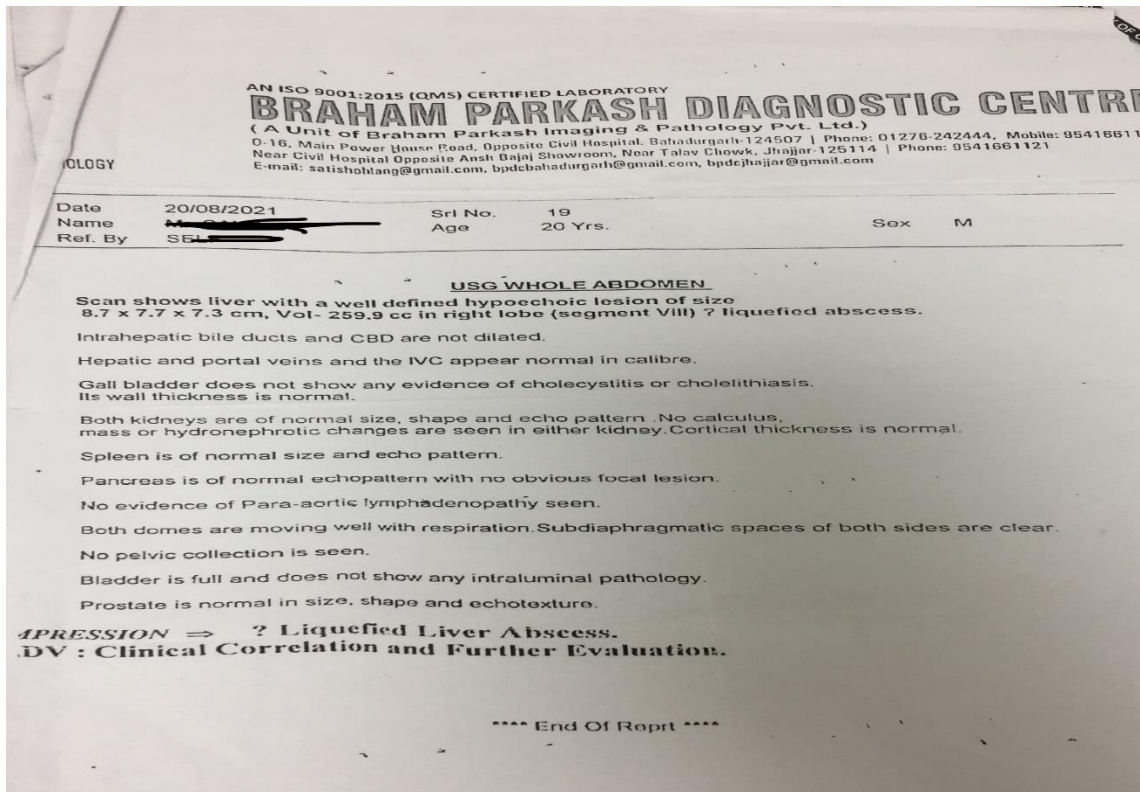
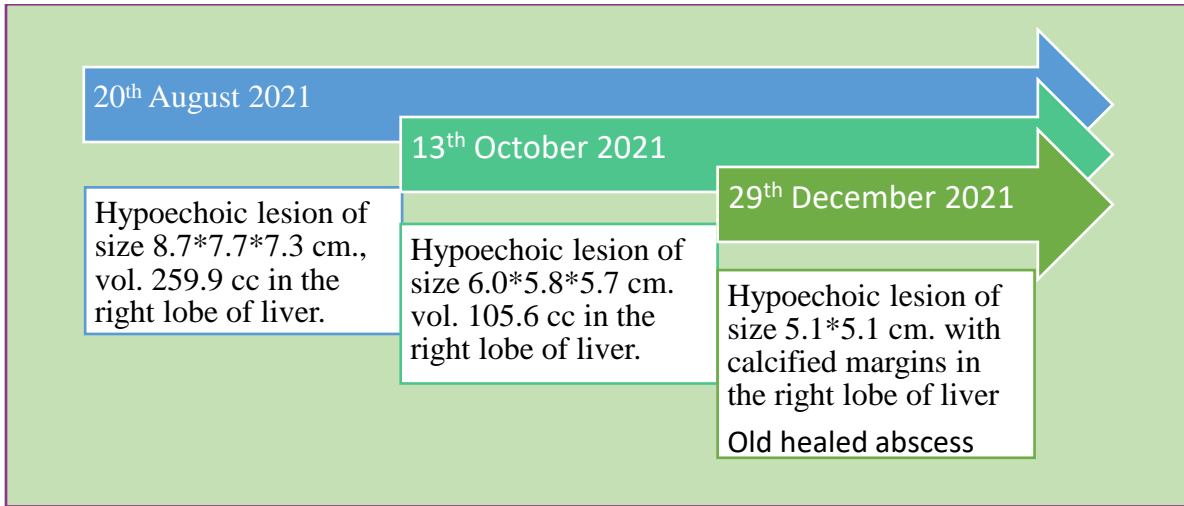
**Flow Chart Treatment.**



**Figure 2: Details of Virechana Karma (therapeutic Purgation)**



**Figure 3: Improvement in USG (abdomen) with date.**



**Before Treatment USG Report.**

After treatment USG Reports

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IMAGING & PATHOLOGY

Date	13/10/2021	Srl No.	18		
Name	<del>M. S. SINGH</del>	Age	20 Yrs.	Sex	M
Ref. By	SELF				

**USG WHOLE ABDOMEN**

- Scan shows liver with a well defined hypoechoic lesion of size 6.0 x 5.8 x 5.7 cm, Vol (105.6 cc) in right lobe - Liquefued abscess.
- Intrahepatic bile ducts and CBD are not dilated.
- Hepatic and portal veins and the IVC appear normal in calibre.
- Gall bladder does not show any evidence of cholecystitis or cholelithiasis. Its wall thickness is normal.
- Both kidneys are of normal size, shape and echo pattern. No calculus, mass or hydronephrotic changes are seen in either kidney. Cortical thickness is normal.
- Spleen is of normal size and echo pattern.
- Pancreas is of normal echopattern with no obvious focal lesion.
- No evidence of Para-aortic lymphadenopathy seen.
- Both domes are moving well with respiration. Subdiaphragmatic spaces of both sides are clear.
- No pelvic collection is seen.
- Bladder is full and does not show any intraluminal pathology.
- Prostate is normal in size, shape and echotexture.

**IMPRESSION ⇒ Liquefied Liver Abscess.**  
**ADV : Clinical Correlation and Further Evaluation.**

\*\*\*\* End Of Reprt \*\*\*\*

Dr. S P OHLAN  
 MD (RADIO DIAGNOSIS)  
 CONSULTANT RADIOLOGIST

This report is purpose of doctor only. Not for medico legal cases. If the result (s) is / are alarming or unexpected. The patient / consultant is advised Centre immediately for a recheck. All congenital anomalies can not be detected on ultrasound. This is only a professional opinion, it may kindly be cor

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 E-mail: satishohlang@gmail.com, bpdcbahadurgarh@gmail.com, bpdchajjar@gmail.com

IMAGING & PATHOLOGY

Date	29/12/2021	Srl No.	3		
Name	<del>M. S. SINGH</del>	Age	20 Yrs.	Sex	M
Ref. By	SELF				

**USG WHOLE ABDOMEN**

- Scan shows liver with a well defined hypoechoic lesion of size 5.1 x 5.1 cm with calcified margins ? Old healed abscess.
- Intrahepatic bile ducts and CBD are not dilated.
- Hepatic and portal veins and the IVC appear normal in calibre.
- Gall bladder does not show any evidence of cholecystitis or cholelithiasis. Its wall thickness is normal.
- Both kidneys are of normal size, shape and echo pattern. No calculus, mass or hydronephrotic changes are seen in either kidney. Cortical thickness is normal.
- Spleen is of normal size and echo pattern.
- Pancreas is of normal echopattern with no obvious focal lesion.
- Multiple enlarged mesentric lymphnodes, largest of size 2.0 x 1.2 cm with altered echopattern. ADV : Clinical Correlation and further evaluation to R/o tubercular etiology.**
- Both domes are moving well with respiration. Subdiaphragmatic spaces of both sides are clear.
- No pelvic collection is seen.
- Bladder is full and does not show any intraluminal pathology.
- Prostate is normal in size, shape and echotexture.

**ADV : Clinical Correlation and Further Evaluation.**

\*\*\*\* End Of Reprt \*\*\*\*

Dr. S P OHLAN  
 MD (RADIO DIAGNOSIS)  
 CONSULTANT RADIOLOGIST

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