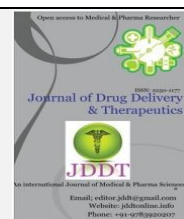




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Case Study

## Ayurvedic Approach In Primary Biliary Cholangitis (PCB): A case study

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### ABSTRACT

Despite of countless facilities and highly developed technologies for the treatment of diseases in modern medical science, there are many diseases which has no medical cure other than prophylactic treatment while the disease is progressing and needs organ transplant in last stage, one such disease is Primary Biliary Cholangitis (PBC). A 65 year old female patient presenting with pain in upper abdomen (*Udarshool*), decrease appetite (*Agnimandhyata*), weakness (*Daurbalyata*), distension of abdomen (*Kuchheradmanam*), bilateral mild pedal edema (*Ubhaypaad-shoth*), itching (*Kandu*), muscular and bony pain (*Mansasthishool*) diagnosed as *Yakritpleehodar Roga*, a subtype of *Udar roga* was brought to Hospital National Institute of Ayurveda, Jorawarsingh Gate, Jaipur, Rajasthan. The patient was treated on the basis of Ayurvedic principles of treatment of *Udar roga*. According to Ayurveda, the principle of treatment of *Udar roga* includes *Nitya Virechan* (purgation), *Agnideepan* (increasing appetite), *Yakrituttejan* (stimulation of Liver), *Mutra Virechan* (diuresis) and *Ksheer Prayoga* (use of milk as diet) for *Balprapti* (increasing strength of patient). Appreciable result were observed in the form of decreased abdominal pain, decreased abdominal girth, decreased pedal edema, decreased weakness, decreased muscular and bone pain, increased appetite, decrease in fibrotic changes of Liver, resolution of Ascites, decrease in size of Spleen along with significant improvement in other laboratory investigations.

**Keywords:** *Ksheer Prayoga, Jalodar, Primary Biliary Cholangitis, Udar roga, Yakritpleehodar Roga.*

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### INTRODUCTION

According to Ayurveda, *Udar Roga* means generalized abdominal enlargement, further classified into different types based on chief presenting symptoms. *Yakridalyodar* and *Pleehodar* are one of them and when found together can be termed as *Yakritpleehodar*. According to Ayurveda, all types of *Udar rogas*, if not treated properly produces *Jalodar* or ascites<sup>1</sup>. Liver diseases are the most important cause of ascites. In modern science, the management options for the liver disease are limited, liver transplant is costly, has limitation of getting donor and bears risk. Ayurveda with its holistic approach of management offers management options with low risk, and better general wellbeing control of symptoms with oral medicaments or simple OPD based procedures. According to Ayurveda the main cause of *Udar roga* is *Mandagni*<sup>2</sup>. Ayurvedic management of this disease includes oral medications which causes *Nitya Virechan*<sup>3</sup> (purgation and diuresis), *Agnideepan*<sup>4</sup> (increasing appetite), *Yakrituttejan* (stimulation of Liver) and *Ksheer prayoga*<sup>5</sup> (use of milk as diet) for *Balprapti*<sup>5</sup> (increasing strength of patient).

### Primary Biliary Cholangitis (PBC)<sup>6</sup>

Primary Biliary Cholangitis (PBC), previously called Primary Biliary Cirrhosis (PBC), is a chronic disease in which the bile ducts in the liver is slowly destroyed. It is not clear what causes Primary Biliary Cholangitis. Many experts consider it an autoimmune disease in which the body turns against its own cells. A combination of genetic and environmental factors like infections (caused by bacteria including E.coli and mycobacteria, fungi or virus) triggers the disease. Inflammation in the smallest ducts spreads and eventually damages other cells in the liver. As the cells die get replaced by scar tissue (fibrosis) that can lead to cirrhosis. Cirrhosis is scarring of liver tissue that makes it difficult for liver to work properly. It usually develops slowly. Medication can slow liver damage, especially if treatment begins early.

**Risk factors:** female sex with a female: male ratio of 9:1, middle age of 30-60 years and positive family history.

**Symptoms-**

More than half the people with PBC do not have any noticeable symptoms when diagnosed. The disease may get diagnosed while blood tests done for other reasons. Symptoms eventually develop over the next 5 to 20 years. Those who do have symptoms at diagnosis typically have poorer outcomes.

**Common early symptoms:** Fatigue, itchy skin, dry eyes and mouth

**Later signs and symptoms:** Pain in the upper right abdomen, splenomegaly, bone, muscle and joint (musculoskeletal) pain, pedal edema, ascites, xanthelasma & xanthomas, jaundice, hyperpigmentation of skin, osteoporosis, which can lead to fractures, hypercholesterolemia, diarrhea, which may include steatorrhea, hypothyroidism, weight loss

**Complications-**

As liver damage worsens, PBC can cause serious health problems, including: Liver cirrhosis, portal hypertension, splenomegaly, gallstones and bile duct stones, varices-usually in stomach and esophagus, liver cancer, osteoporosis, vitamin deficiencies, specially fat-soluble vitamins, A, D, E and K, hepatic encephalopathy and increased risk of other diseases.

**CASE REPORT**

**Chief complaint:** A 65 year old female presented at OPD of Kayachikitsa, Hospital National Institute of Ayurveda, Jaipur, Rajasthan with chief complaints of-

1. Pain in upper abdomen (*Udarshool*)- since 8 month
2. Decrease appetite (*Agnimandhyata*)- since 4 month
3. Itching (*Kandu*)- since 3 month
4. Weakness (*Daurbalyata*)- since 3 month
5. Distension of abdomen (*Kuchheradmanam*)- since 1 month
6. Bilateral mild pedal edema (*Ubhaypaad-shoth*)- since 1 month
7. muscular and bony pain (*Mansasthishool*)- since 15 days

**History of present illness:**

According to patient, she was well before 8 months. Thereafter patient started having pain in upper abdomen which aggravates after taking food. Within next 4 month she started to feel decrease in appetite and mild itching over body followed by feeling of weakness in next 1 month. According to patient, she also felt distension of abdomen from about 1 month before coming to hospital along with heaviness in lower abdomen; she also had complaint of muscle pain and joint pain from last 15 days before coming to hospital. She did not take any modern medicine for her complaints.

**History of past illness:**

- Abdominal Tuberculosis: 4 year ago
- No History of – Diabetes Mellitus, Hypertension, Thyroid disorder or any other illness.

**Treatment history:**

- Anti-tubercular Treatment for 6 month before 4 years

**Personal History:**

- Occupation: House wife
- Addiction: Tea, occasional Tobacco chewing.
- No addiction to Alcohol or Smoking

**On Examination-**

- General Condition- Fair
- Blood Pressure- 140/94 mmHg
- Pulse Rate- 84/min
- Pallor- present
- Pedal edema- mild, pitting edema present bilaterally
- Weight- 59 Kg
- Height- 5'1"
- Respiratory System- Bilaterally clear lungs with no added sound and normal ventilation
- Cardiovascular System- S1, S2 normal with no added sound
- Central Nervous System- conscious and well oriented to time, place and person.
- Gastrointestinal System-
  - Inspection- transversely stretched umbilicus, distended abdomen with fullness of flanks and dilated veins.
  - Per Abdomen- tenderness in right hypochondrium and epigastric areas, enlarged left lobe of liver palpable in epigastric area, splenomegaly with lower margin palpable 2 fingers below costal margin.
  - Percussion- horse shoe shaped dullness of ascetic fluid.

**INVESTIGATIONS**

1. CBC
2. ESR
3. Random Blood Sugar
4. LFT
5. RFT
6. Lipid Profile
7. Urine analysis
8. USG Abdomen
9. Viral markers for Hepatitis B and C virus
10. Montoux Test

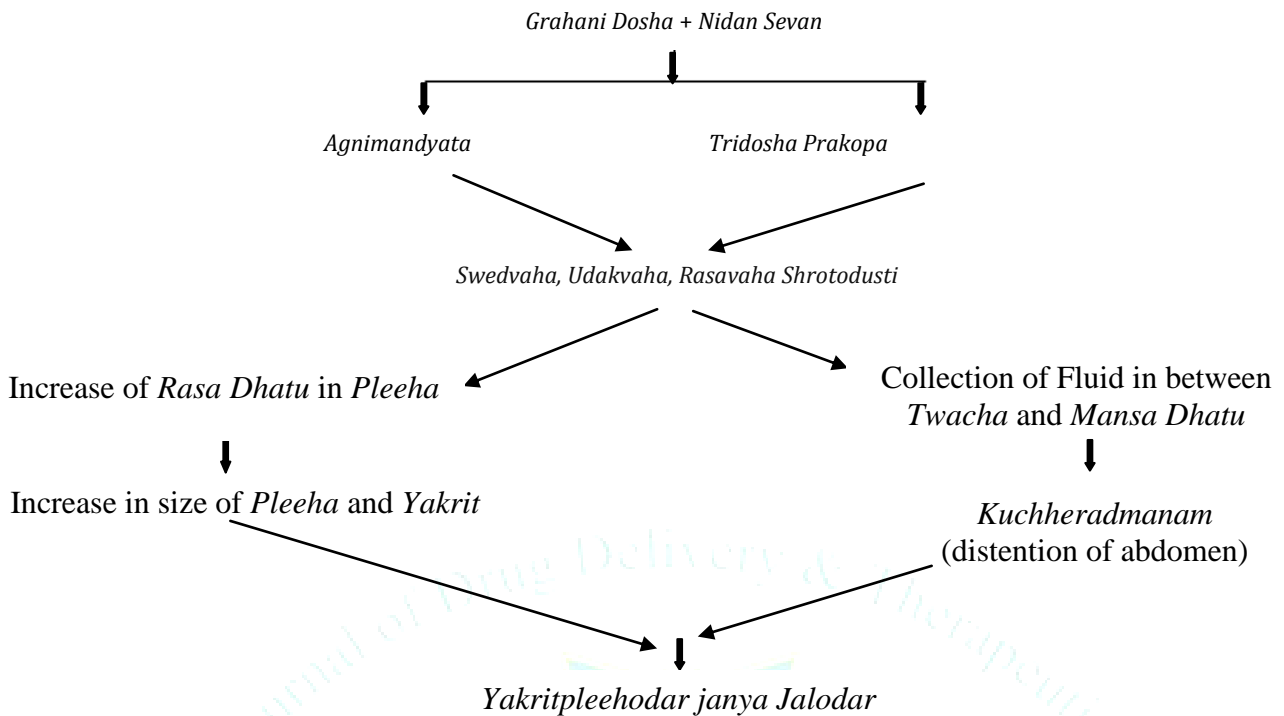
**NIDAN PANCHAK**

1. **Nidan (Causative factors)[7]-** *Grahani Dosha* (Abdominal Tuberculosis), *Dushi Visha* (Tobacco chewing) *Kshar-lavan-vidahee Aahara* (excess intake of alkaline, salty and acrid food like pickles, sauces and packaged food), *Virudha Aahara* (intake of incompatible diet like milk with salty food stuff).
2. **Purvaroop (Prodormal symptoms)[8]-** *Kshudanaash* (loss of appetite), *Svadu-guru-atignidha Anna Pachyate-chirat* (delayed digestion of sweet, heavy and oily food), *Sahate-na-atisauhityam* (intolerance to excess eating).
3. **Roop (Sign & Symptoms and clinical findings)[9]-** *Udarshool* (pain in abdomen), *Kuchheradmanam* (distention of abdomen), *Shopha-padakasya* (swelling in foot), *Mandagni* (decreased appetite), *Daurbalya*

(weakness), *Arochak* (loss of desire to take food), *Avipaak* (indigestion), *Angamard* (body ache), *Parvabheda* (joint pain), *Kostha-vata-shoolani* (aching pain in abdomen), *Kandu* (itching), *Pleeha evum Yakrit Vridhi* (enlarged spleen and liver).

4. **Upashay (Alleviating factors)**- *Laghu-tikta-agnideepak Aahara* (light, appetizing diet having pungent character)

5. **Smprapti (Pathogenesis)**-



#### DASHVIDHA PARIKSHA-

1. **Prakriti**- Pitta-kaphaj
2. **Vikriti**- Tridoshaj
3. **Sara**- Rasa-rakta-asthi-majja Sara Alpata
4. **Sanhanana**- Madhyam
5. **Pramana**- Visham Praman Udar
6. **Satva**- Madhyam
7. **Saatmya**- Katu-kshar-lavan-vidhahi Aahara
8. **Aahara Shakti**- Alpa
9. **Vyayam Shakti**- Alpa
10. **Vaya**- Madhyamavastha

#### SAMPRAPTI GHATAK-

1. **Dosha**- Tridosha
2. **Dushya**- Ras, Rakta, Udak
3. **Agni**- Agnimandyata
4. **Srotus**- Swedvahasrotas, Udakvahasrotas, Rasavahasrotas, Annavahasrotas,
5. **Srotodusti**- Srotosang followed by Vimarg-gaman
6. **Adhistan**- Udar
7. **Sadhyasadhya**- Krichha Sadhya

#### DIFFERENTIAL DIAGNOSIS:

**Ayurvedic:** Kaphodar, Sannipatodar, Jalodar.

**Modern:** Ascites due to Tubercular Peritonitis, Ascites due to Renal Disease, Ascites due to Liver Cirrhosis.

#### CONFIRM DIAGNOSIS:

**Ayurvedic:** Yakritpleehodar janya Jalodar Roga

**Modern:** Primary Biliary Cholangitis associated with Ascites

#### TREATMENT PLAN

1. A combination of *Gokshur Churna*=2gm, *Punarnava mandoor*=250mg, *Sankh Bhasma*= 250mg. given 2 times in a day before meal with *anupan* of luke warm water.
2. A combination of *Gomutraharitaki*=2gm, *Panchkol Churna*=1gm. given 2 times in a day after meal with *Anupan* of luke warm water.
3. *Arogyavardhini Vati*- 2 Vati (each of 250mg), given 2 times in a day after meal with *Anupan* of luke warm water.
4. A combination of *Ark Punarnava* and *Ark Makoy* 4 full table spoon each, 2 times in a day, 1hour after meal.
5. *Erand Tail*=10ml at night with luke warm cow milk.

**Duration of Treatment:** one month.

#### PATHYA-APATHYA

##### 1. Pathya (suitable regimen)[10]-

- During Treatment- Patient was kept only on cow milk diet.
- After Treatment- *Langhan* (Light diet), *Mudga* (green gram), *Yava* (barley), *Godugdha* (cow milk), *Errand Tail* (castor oil), *Takra* (buttermilk), *Ardrak* (zinger), *Punarnava* (*Boerhavia diffusa*), *Haritaki* (*Terminalia chebula*).

2. **Apathya (unsuitable regimen)[11]**- *Sneha* (oil and oily food), *Jalapana* (excess water intake), *Divashayan* (sleeping in day time), *Yaan-prayog* (excess use of vehicles), *Vyayam* (strainuous exercise), *Usna-Lavan-Vidahee Aahar* (hot, salty and acrid food) , *Virudhdha-anna* (incompatible diet).

## OBSERVATION &amp; RESULT

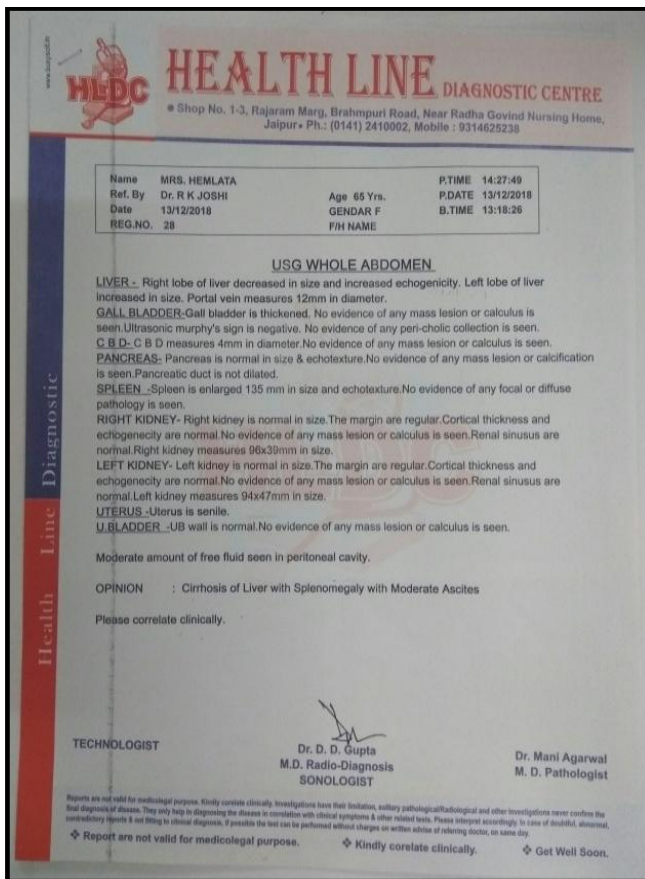
**Table 1:** Assessment of fluid in the abdomen through measuring abdominal girth, distance between xiphisternum and umbilicus & between umbilicus and pubic symphysis and change in body weight.

Date	Abdominal Girth At Umbilicus (in cm)	Xiphisternum to umbilicus (in cm)	umbilicus to Pubic symphysis (in cm)	Body weight (in Kg)
11/12/2018	105	17	18.5	59
14/12/2018	105	17	18.5	59
17/12/2018	104	16.5	18	58.5
20/12/2018	103.5	16.5	17	58.5
23/12/2018	103	16	17.5	58.5
26/12/2018	101	15.5	16	58
29/12/2018	101.5	15.5	16	58
01/01/2019	99.5	15.5	15.5	57.5
04/01/2019	98.5	15	15.5	57.5
07/01/2019	97.5	14.5	15.5	57
10/01/2019	97	14.5	15	57
13/01/2019	97	14.5	15	57

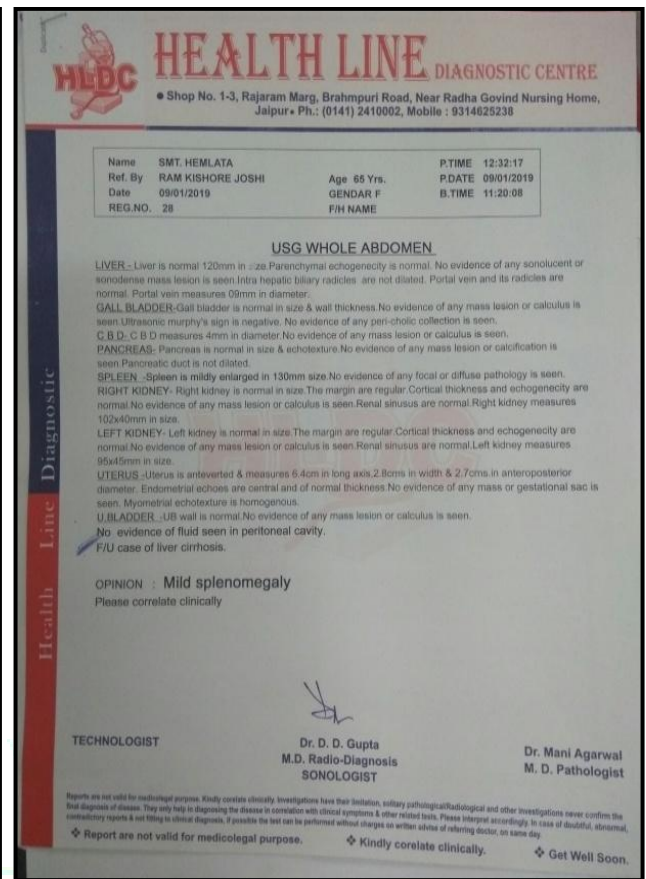
**Table 2:** Investigations before and after treatment

S. N.	Investigations	Before Treatment (14/12/2018)	After Treatment (15/01/2019)
1.	Hb%	7.2 %	8.1%
2.	TLC	6300/cumm	5900/cumm
3.	Platelet Count	1,60,000/cumm	1,62,000/cumm
4.	ESR	14mm in 1st Hr.	12 mm in 1st Hr.
5.	Blood Sugar (R)	102 mg/dl	96 mg/dl
6.	Urine Analysis	Protein	Absent
		Sugar	Absent
		Pus cells	1-2/hpf
		Epithelial cells	2-3/hpf
7.	LFT	Sr. Bilirubin (T)	1.8 mg/dl
		Sr. Bilirubin (D)	0.6 mg/dl
		Sr. Bilirubin (I)	1.2 mg/dl
		S.G.P.T.	59 IU/L
		S.G.O.T.	34.4 IU/L
		Sr. Alk. Phosp.	459.6 U/L
8.	RFT	Sr. Urea	35 mg/dl
		Sr. Creatinine	0.94 mg/dl
9.	Lipid Profile	Sr. Cholesterol	238 mg/dl
		Sr. Triglyceride	146 mg/dl
		HDL	32 mg/dl
		LDL	98 mg/dl
		VLDL	24.4 mg/dl
10.	USG Abdomen	Cirrhosis of Liver with Splenomegaly with moderate Ascites	Mild Splenomegaly





USG Abdomen (Before Treatment)



USG Abdomen (After Treatment)

## OTHER INVESTIGATIONS

1. HBsAg (Rapid)- Negative
2. Anti- HCV- Non-reactive
3. Montoux Test- Negative

## DISCUSSION

The patient was treated according to Ayurvedic principles. The principle of treatment of *Udar Roga* includes *Nitya Virechan* (purgation), *Agnideepan* (increasing appetite), *Yakrituttejan* (stimulation of Liver), *Mutra Virechan* (diuresis) and *Ksheer prayoga* (use of milk as diet) for *Balprapti* (increasing strength of patient). Appreciable result was observed in the form of decreased abdominal pain, decreased abdominal girth, decreased pedal edema, decreased itching, decreased weakness, decreased muscular and bone pain, increased appetite, decreased fibrotic changes of liver, resolution of ascites, decreased size of spleen along with significant improvement in other laboratory investigations.

*Nitya Virechan* (purgation) caused by *Erand Tai*, *Kutaki* present in *Arogyvardhini Vati* and *Teekshna Guna* of *Gomutra haritaki* causes continuous flushing of *doshas* (toxins) from the *kostha* (body). *Agnideepan* caused by *Panchkol Churna* and *Deepan* drugs present in *Arogyvardhini Vati* helps in increasing *Agni* (appetite). *Sankh Bhasma* relieves gastric discomforts. *Yakrituttejan* drugs like *Arogyvardhini Vati* stimulates liver function and *Punarnava* helps regeneration of healthy liver cells, all together they optimize liver's synthetic, metabolic, enzymatic and other functions. *Virechan* in the form of *Nitya Purish Virechan* (purgation) and *Mutra Virechan* (diuresis) caused by *Punarnava* present in *Punarnava Mandoor*, *Ark Punarnava* and *Gokshur Churna*

and *Ark Makoy* helps in removal of excess fluid out of the body. *Mandoor* present in *Punarnava Mandoor* helps to raise hemoglobin level. *Arogyvardhini Vati*, a well known drug of skin disorder might help to relieve *Kandu* (itching). *Ksheer prayoga* (use of milk as diet) fulfills basic protein and fat requirement of the patient and results in *Balprapti* (increased strength of patient) and it helps in stimulating the liver and keeps it active.

## CONCLUSION

According to Ayurveda, the pathological factors for development of *Yakritpleehodar Roga* (a type of *Udar Roga*) are *mandagni* and *tridosha sanchay*. The principles of Ayurvedic treatment applied to this patient breached the basic pathogenesis and produced significant improvement in signs and symptoms, gross pathology seen in USG Abdomen and laboratory investigations.

Many experts from modern medicine consider Primary Biliary Cholangitis (PBC) as an autoimmune disease in which the body turns against its own cells due to the combination of genetic and environmental factors, which help to trigger the disease. However, Ayurveda has shown promising results in many autoimmune diseases but appreciable data on effect of Ayurvedic treatment on PBC is not present. So, extensive research work is needed to establish this fact.

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