

# Management of Ascites (*Jalodar*) with Ayurvedic formulations: A Case Report

## Case Report

Mayur A Gaikwad<sup>1</sup>, Aabha K Trigunayat<sup>2</sup>, Jayant D Gulhane<sup>3</sup>

1. PG Scholar, 3. Associate Professor and HOD, Department of Kayachikitsa,

2. PG Scholar, Department of Rog Nidan Evum Vikriti Vigyan  
Government Ayurved College, Nagpur, Maharashtra. India.

### Abstract

An unnatural buildup of fluid in peritoneal cavity is known as Ascites. There are many etiological reasons, but Liver Cirrhosis is most frequent one. It can be correlated with *Jalodar*, which is one of the important types of *Udarroga* (Disease of abdomen) and it has been described in Charak, Sushruta, Ashtanghridaya. This case of Ascites includes *Udaravridhi* (Abdominal distension), *Ubhaypada Shotham* (Bipedal edema), *Nakha, Netra, Twak Peet Varniya* (mild icterus), Anorexia (*Aruchi*) and generalized weakness (*Daurbalya*). The patient had a history of chronic alcoholism but neither diabetes nor hypertension. He was treated in accordance with the Charak Samhita description of *Jalodar*'s treatment principles, which include such as *Nityavirechan* (daily purgation) by using Ayurvedic medications, *Srotoshodhan* (microchannels cleaning) and few Ayurvedic hepatoprotective drugs. All of the patient's above-mentioned complaints, were completely resolved. USG (abdomen) repeated after 1 month showed no ascites and there was significant improvement in values of LFT and KFT. The favorable outcomes of this study encourage researchers to carry out more studies to establish an Ayurvedic *Jalodar* (ascites) treatment plan.

**Keywords:** Ascites, Ayurvedic Management, Hepatoprotective, *Jalodar*, *Nityavirechan*, Purgation, *Srotoshodhan*.

### Introduction

Ascites, a pathologic buildup of fluid in the peritoneal cavity, is a common consequence of decompensated cirrhosis, affecting about 50% of patients within ten years. When ascites appears, compensated cirrhosis changes to decompensated cirrhosis, leading to 50% of patients dying within three years. Resistant ascites has a poor prognosis, with less than 50% of patients surviving the first year. Portal hypertension is the first anomaly to appear, followed by vasodilatation, elevated plasma levels of vasoconstrictor sodium-retentive hormones, and renal function decline. The treatment for ascites aims to reduce peripheral oedema and minimize the volume of ascitic fluid without depleting intravascular volume (1). Ascites, also known as *Jalodara* (2), is one of the eight forms of *Udarroga*, which can cause serious complications. Ayurveda provides comprehensive explanations of the disease, medical therapies, and surgical techniques (3). Restricting diet and water intake is crucial for treating ascites (4). Ayurvedic treatment, including drugs like hepatic stimulation, daily purgation (5), digestion provocation, and a milk-based diet, shows positive outcomes by addressing the underlying pathology and destroying its pathogenesis (6). Here, we present a case of ascites in which the patient recovered completely

with only Ayurvedic medicine, as described in Ayurvedic texts.

### Purpose of Study

Despite the availability of modern medical advances, there is currently no sure cure for Ascites. Modern treatment only offers temporary relief, but the fluid accumulates in the abdomen repeatedly. Therefore, this is a step towards providing a suitable Ayurvedic treatment protocol for Ascites (*Jalodar*) and planning to prevent its recurrence without any adverse effects.

### Case Report

A 38-year-old male patient came to Kayachikitsa OPD (Out Patient Department) with complaints of *Udaravridhi* (Abdominal distension), *Ubhaypada Shotham* (Bipedal edema), *Krishna Varniya Mala Pravrutti* (Malaena), *Nakha, Netra, Twak Peet Varniya* (mild icterus), *Kshudhamandya* (Anorexia), *Udaraadhman* (Bloating), *Daurbalya* (Generalised weakness), since 2months.

### History of Present Illness

The patient was healthy two months ago. Since then, he was experiencing the above-mentioned symptoms. In view of these symptoms, he first approached private hospital and there he was advised for abdominal paracentesis. Patient was not willing to go through this procedure and therefore he came to the Kayachikitsa OPD. After taking written consent, the patient was admitted to the indoor patient department for Ayurvedic management and daily observation.

### \* Corresponding Author:

**Mayur A Gaikwad**

PG Scholar, Department of Kayachikitsa,  
Government Ayurved College,  
Nagpur, Maharashtra. India.

Email Id: [mayurg426@gmail.com](mailto:mayurg426@gmail.com)

## Past Medical history

No significant family history, surgical history or any known medical history.

## Personal History

Patient has a non-vegetarian diet (non-veg 2-3time/week). He had an addiction history of alcohol since 12-13 years (daily alcohol intake approximately 200- 250 ml) and kharra (tobacco) since 10 years (3-4 times daily).

Sleep- Disturbed

Occupation- Farmer

Marital Status- Married

## Ashtavidha Pariksha:

- *Nadi* – *Niyamit* (*Manduk Gati- Pitta Dosha* predominant)
- *Mala* – *Malavashtambha* (constipated), *Krushna Varniya* (Malena)
- *Mutra*- 4 to 5 episodes/day, *Peet Varniya* (dark yellow colored)
- *Jivha* – *Saam* (Coated)
- *Shabda*- *Spasht* (Clear)
- *Sparsha* – *Samsheetoshna*
- *Druka* – *Prakrut*
- *Aakruti* (built) – *Madhyam* (medium) (BMI – 23.2kg/m<sup>2</sup>)

## General Examination

Pulse - 91/Min, BP - 130/80mmhg, Pallor-++, Icterus-++ , Bipedal edema -++  
(Denotes + Mild, ++ Moderate, +++Severe)

## Per Abdomen examination

On inspection the abdomen was distended. While on palpation tenderness was present in the right hypochondriac region, Liver was non-palpable, Spleen was non-tender and non-palpable. On percussion Fluid thrill & Shifting dullness sign was positive.

## Differential Diagnosis

The possible causes of ascites are liver disease, heart failure, malignancy, chronic kidney disease, peritoneal tuberculosis and peritonitis. In the present study, based on patient's medical history and investigations it was confirmed that it is liver cirrhosis induced ascites due to chronic alcoholism.

## Diagnosis: Jalodara (Ascites)

**Study Design:** This is a single case study with duration of treatment for 3 months.

## Material and methods

### Treatment Plan

The treatment plan was *Nityavirechana* (Daily purgation) and *Shamana* (Pacifying remaing *Doshas*). Initially he was given *Hingwashtak churna* 3gm (twice a day), *Arogyawardhini Vati* 500mg (twice a day) for *Deepan*, *Pachan*, and to relieve *Udar Aadhaman*. It was continued upto 7 days. Patient also had symptom of *Shotha* (Edema) for which *Punarnavasav* (20ml twice a day) was given for 15 days and was replaced by *Kumariasav* (20ml twice a day) for next 15 days. *Punarnava Mandoor* was given for 1 month in the dose of 250mg (twice a day) with *Takra* (butter milk) as *Anupan*. *Kwath* prepared of *Kutaki*, *Patol*, *guduchi*, *nimba*, *vasa*, *bhumyamalaki*, *mrudvika* was given in the dose of 40ml twice a day for 1month in view of *Nityavirechan*. As *Virechan* (purgation) is the essential part in *Chikitsa* (treatment) of *Jalodar*. *Erand Patra* (castor plant leaves) + *Arka Patra* (calatropis procera plant leaves) *Patta Bandhan* was done daily for 1 month to prevent the accumulation of *Vata* in Abdomen. (Table no.1)

On discharge patient was advised to continue *Punarnava Mandoor* and *Kumariasav*. On follow up after a month all medicines were stopped and patient was kept only on *Pathya Ahar*.

**Table 1: Table showing Plan of treatment, medications, route of administration, dose along with timeline**

Treatment Regimen	Duration	Drug	Dose	Frequency	Route of Administration
<i>Deepan-Pachan</i>	30/01/23 to 06/02/23	<i>Hingwashtak churna</i> – <i>Trikatu</i> , <i>Ajmoda</i> , <i>Saindhav</i> , <i>Jirak</i>	3gm	Twice a day	Oral
	30/01/23 to 28/02/23	<i>Arogyawardhini Vati</i> - <i>Kutki</i>	500mg	Twice a day	Oral
<i>Panduhar</i>	30/01/23 to 30/03/23	<i>Punarnava Mandoor</i>	250mg	Twice a day	Oral
<i>Shothaghna</i>	30/01/23 to 14/02/23	<i>Punarnavasav</i>	20ml	Twice a day	Oral
<i>Yakrit-uttejyak</i>	15/02/23 to 30/03/23	<i>Kumariasav</i>	20ml	Twice a day	Oral
<i>Nitya Virechan</i>	30/01/23 to 28/02/23	Combination of <i>kutaki</i> , <i>patol</i> , <i>guduchi</i> , <i>nimba</i> , <i>vasa</i> , <i>bhumyamalaki</i> , <i>mrudvika</i> )	40ml	Twice a day	Oral
<i>Sthanik Karma</i>	30/01/23 to 28/02/23	<i>Erand patra</i> + <i>arka patra patta bandhan</i> around the abdomen	-	Once a day	Local application

## Pathya Apathya

Patient was kept on a restricted diet by giving him only cow milk (*Godugdha*) during the treatment and even 2 months after treatment and patient was advised to take light diet. Cow milk was also used as an adjuvant with medication.

## Assessment Criteria

### Subjective criteria

- Cardinal Signs of *Jalodar* (Ascites): *Udaravridhhi*, *Ubhaypada Shotham*, *Kshudhamandya*

*Udaraadhman*, *Daurbalya*, *Nakha*, *Netra*, *Twak Peet Varniya*. (Table No.2)

### Objective Criteria-

- Investigations: Complete blood count, liver function test, kidney function test.
- Ultra sonography of abdomen. (Table No.3 & 4)
- Abdominal Girth measurement (Table No.5)
- Bilateral Pedal Girth measurement (Table No.6)

## Observations and Results

**Table 2: Assessment of Symptoms**

Complaints	30/01/2023	06/02/2023	13/02/2023	20/02/2023	27/02/2023	30/03/2023
<i>Udaravridhhi</i> (Abdominal)	++	++	++	+	+	Absent
<i>Ubhaypada shotham</i> (Bipedal edema)	++	++	+	+	Absent	Absent
<i>Krishna Varniya Mala Pravrutti</i> (Malaena)	++	+	Absent	Absent	Absent	Absent
<i>Nakha, Netra, Twak Peet Varniya</i> (mild)	+++	++	++	+	Absent	Absent
<i>Kshudhamandya</i>	+++	++	++	+	Absent	Absent
<i>Udaraadhman</i>	++	+	Absent	Absent	Absent	Absent
<i>Daurbalya</i> (Generalised)	+++	++	+	+	Absent	Absent

- (+ = Mild, ++ = Moderate, +++ = Severe)

**Table 3: Table showing hematological findings before, mid and after treatment**

Parameter	Before treatment 20/01/2023	Mid treatment 14/02/2023	After treatment 27/02/2023
<b>1.Hb</b>	4.8 gm%	7.7 gm%	7.8 gm%
<b>RBC</b>	1.36 mill/cumm	2.81 mill/cumm	2.94 mill/cumm
<b>2. LFT</b>			
Sr. Bilirubin Total –	4.58 mg/dl	2.05 mg/dl	1.84 mg/dl
Sr. Bilirubin Direct	2.21 mg/dl	1.28 mg/dl	1.09 mg/dl
Sr. Bilirubin Indirect –	2.37 mg/dl	0.77 mg/dl	0.75 mg/dl
Sr. SGOT –	120.7 U/L	41.44 mg/dl	38.59 mg/dl
Sr. SGPT –	94.34 U/L	25.48 mg/dl	22.47 mg/dl
<b>3.KFT –</b>			
Blood Urea –	65.90 mg/dl	20.41 mg/dl	25.89 mg/dl
Sr.Creatinine –	0.72 mg/dl	0.71 mg/dl	0.81 mg/dl
Sr. Sodium –	123.4 mEq/l	138 mEq/L	142 mEq/L

**Table 4: Table showing Ultrasonography Reports**

Before treatment (20/01/2023)	After treatment (27/02/2023)
Moderate hepatomegaly with severe fatty infiltration. Possible cirrhosis. Thickened gall bladder. A right renal calyceal calculus. Mild splenomegaly. <b>Mild to moderate ascites present.</b>	Mild hepatomegaly with fatty infiltration. Possible cirrhosis. <b>There is no ascites at present.</b>

**Table 5: Table showing abdominal girth measurement**

Date	5 cm below Umbilicus	At Umbilicus	5 cm above Umbilicus
30/01/2023	92cm	97cm	100cm
06/02/2023	89cm	93cm	94cm
13/02/2023	86cm	91cm	91cm
20/02/2023	82cm	87cm	89cm
27/02/2023	78cm	82cm	80cm
30/03/2023	76cm	80cm	79cm

**Table 6: Table showing bilateral pedal girth measurement (mid-point between knee joint and ankle joint)**

Date	Right leg (cm)	Left leg (cm)
30/01/2023	37	36
06/02/2023	36	35
13/02/2023	34	34.5
20/02/2023	32.5	32.5
27/02/2023	30.5	31
30/03/2023	28.5	29

## Hetu of Jalodara

### Aharaj Hetu (Dietary factors) –

- *Katu Lavan Amla Rasa Sevan* (Spicy, Salty & Sour taste)
- *Virudhha Ahar* (Incompatible food combinations)
- *Vidahi Ahar* (Food that induce heating sensation in body)
- *Vishamashan*, (Irregular and improper diet with respect to time and proportion)
- *Paryushit Aahar Sevan* (Intake of Stale food)
- *Ati Madyapan* (Chronic Alcoholism)

### Viharaj Hetu –

- *Diwaswap* -1-2 hrs, (Sleeping during day time)
- *Avyayam* (Lack of exercise)
- *Vega Dharan* (Suppression of natural urges)

### Manasik Hetu –

- *Chinta* (Stress) *Krodha* (Aggression)

## Discussion

*Mandagni* (poor digestive fire) is the main causative factor of *Jalodara*. Regular consumption of the aforementioned *Hetu* (Causative factor) by the patient results in *Mandagni*. Hence, cessation of these *Hetu Sevan* was the prime focus while treating the patient as mentioned by classics that *Nidan Parivarjan* (avoidance of disease-causing factors) is the important step of curing any disease. (7) Since *Mandagni* is the main cause of *Jalodara*, the patient was advised milk diet and their water and food intake is restricted for *Agnideepana* (raise the digestive fire). The qualities of *Kshira* (milk), such as *Madhura Rasa* (sweet taste), *Mridu* (soft), *Slakshana Guna* (soft and unctuous nature), *Shita Virya* (cold potency), *Madhura Vipaka*, and *Srishtavinamootra*, act as purgatives and diuretics (8). Also, in today's era milk is considered as a complete food. (9) Therefore, *Kshira* is chosen as a *Pathya Ahara* (meal option) in conjunction with Ayurvedic treatment in order to increase *Agni* and maintain nutritional condition.

### Mode of Action of *Hingvashtak churna*

It contains *Hingu*, *Trikatu*, *Ajmoda*, *Saindhav* and *Jirak*. (10) Its sharp, hot and unctuous property helps to balance vitiated *Vata* in the digestive tract, treating bloating, flatulence, colic and undigested food in the stool; it moves *Samana Vayu* and draws *Apana Vayu* down. Due to *Katu Rasa* and *Laghu*, *Tikshna Guna* it causes *Srotoshodhana*. This renders the indigested and *Pakva-Apakva* food into the assimilable form and due to *Katu Rasa* and *Ushna Virya*, the *Agni* become normal leading to the *Vyadhi Shamana* i.e., subsidence of disease. (11)

### Mode of Action of *Arogyavardhini Vati*

Key ingredients of *Arogyavardhini Vati* includes *Shudhha Parad* (~purified mercury), *Shudhha Gandhak* (~purified sulphur), *Tamrabhasma* (~calcinated copper), *Abhrakabhasma* (~calcinated mica), *Shilajatu* (~Asphaltum punjabinum), *Guggulu* (~commiphora mukul), *Triphala* and *Chitrakamool* (~leadwort). (12)

Main content of this drug is *Kutaki* (~*picrorhiza kurroa*) which acts as *Pitta Virechaka* and shows action on *Yakrita*. This is also helpful in removing the obstruction of hepato-biliary channels and correcting hyperbilirubinemia. *Cucurbitacin* exhibited liver protective, anti-inflammatory activities. *Kutkin* glycosidal bitter principle of *Kutaki* exhibited hepatoprotective activity in Carbon tetrachloride. In this study, subject had mild *Hepatomegaly* so *Arogyavardhini* was used because it acts as *Yakrituttejaka* (13) and *Bhedak* which leads to *Malashodhan* which ultimately leads to regulation of *Apan Vayu*.

### Mode of Action of *Punarnavasava*

It includes *Trikatu*, *Triphala*, *Daruharidra* (~*berberis aristate*), *Gokshur* (~*Tribulus terrestris*), *Bruhatidvayam*, *Vasa* (~*Adhatoda vasica*), *Erandmool* (~*Ricinus communis*), *Kutki*, *Punarnava* (~*Boerhavia diffusa*), *Nimba* (~*Azadirachta indica*), *Guduchi* (~*Tinospora cordifolia*), *Durlabha* (~*Ocimum basilicum*), *Patol* (~*Trichosanthes dioica*), *Dhataki* (~*Woodfordia fruticosa*), *Sharkara* (~sugar) and *Makshik* (~honey). This all have hepatoprotective activity which help in relieve the edema caused due to liver and spleen related diseases. It is a potent diuretic and thus helps relieve edema in patients of *Ascites*. As per classics it is indicated in *Shotha* (~*Edema*), *Udarrog* (generalized distension of abdomen due to varied aetiology), *Yakrutvirdhhi* (~*Hepatomegaly*) and *Plihavrudhhi* (*Spleenomegaly*) (14).

### Mode of Action of *Kumariasava*

It has various types of ingredients which includes *Shunthi*, *Marich*, *Pippali*, *Lavang*, *Dalchini*, *Ela*, *Tejpatra*, *Nagkeshar*, *Chitrak*, *Vidang*, *Chavya*, *Kutki*, *Nagarmotha*, *Triphala*, *Rasna*, *Deodaru*, *Daruharidra*, *Haridra*, *Yashtimadhu*, *Danti*, *Pushkarmool*, *Bala*, *Atibala*, *Kapikachhu beej*, *Gokshur*, *Punarnava*, *Lodhra*, *Swarnamakshik Bhasma*, *Loha Bhasma*, *Makshik* (honey), *Jaggery*. Its main ingredient is *Kumari* which is a hepato- protective in nature. *Sharandhara* specifically indicated it in all the eight types of *Udarroga* (15).

### Mode of Action of *Punarnava Mandoor*

It combination *Punarnava*, *Trivrutta*, *Shunthi*, *Pippali*, *Marich*, *Vidang*, *Deodaru*, *Chitrak*, *Pushkarmool*, *Triphala*, *Haridradvaya*, *Danti*, *Chavya*, *Kutajphal*, *Kutki*, *Madoor Bhasma*, *Nagamotha* and *Gomutra*. It is indicated in *Pandu* (*Anemia*), *Shotha* and *Udarrog*. (16) It reduces iron deficiency anaemia as *Mandoor Bhasma* acts as the iron supplement and the herb *Amalaki* (high in Vit C) (17) promotes its absorption in the body. (18)

### Mode of Action of *Nitya Virechan Kashay* can be discussed as given below

*Patol* (*Trichosanthes dioica* Roxb.)- *Tikta*, *Katu Rasa* and *Ushna Virya* acts as *Pachaka* and it is *Yakrittejaka* hence used in *Kamala* (jaundice). It also acts as *Rechak* and *Anulomak* (purgative) (19)



**Mrudvikka** (Vitis Vinifera Linn.)- it is included in *Charkokta Mahakashay* i.e *Virechanopag Gana* means it helps in *Virechan*. Also, it is known to enhance the haemoglobin levels effectively. (20) **Vasa** (Adathoda Vasica)- Due to its *Tikta*, *Kashay* and *Sheet* properties it acts as *Rakta Stambhak* and *Raktaprasadak* hence it prevents the occurrence of complication of ascites like bleeding from upper and lower gastro intestinal. (21) **Guduchi** (Tinospora cordifolia)- *Guduchi* balances *Vata* and *Pitta*. It has anti-inflammatory, immunomodulatory, hepatoprotective, antioxidant and antidiabetic effects. It has the unusual characteristic of being heating while simultaneously removing excess *Pitta* from the body and reducing inflammation. It is helpful in repairing fibrosis and regenerating liver tissue. It also plays important role in normalization of altered liver enzymes (ALT, AST). (22) **Nimba** (Azadirachta indica A. Juss.) leaf extract has hepatoprotective effect as it contains phytochemicals such as Azadirachtin, Nimbidin, Nimbin, Nimbinin. (23) **Bhumyamalaki** (P. niruri Linn)- in animal model has shown to decrease hepatomegaly, prevented fibrosis, and has anti NAFLD effect. (24)

"*Nitya Virechana*" is the *Jalodara Chikitsa Sutra*. To separate and dissolve the *Sanga* of all dosha and stored fluid, *Virechana* is necessary. *Rakta's Mula Sthana*, or primary location, is Liver (*Yakrita*). Since *Rakta-Pitta* is mutually dependent on *Ashraya* and *Ashrayi Sambandha*, purgation is the most effective treatment for vitiated *Pitta Dosha*. *Virechana* decreases the quantity of fluid in the abdominal cavity, which also lowers edema and the circumference of the belly.

Therefore, the above-mentioned treatment protocol aid in breaking the pathogenesis of *Jalodar* (Ascites), which eliminates symptoms and stops the disease progression.

## Conclusion

The Present study shows that Ayurveda has tremendous amounts of potential for effectively treating conditions like *Jalodar* (ascites). Ayurvedic medicine, diet restriction, and daily therapeutic purgation have shown a marked improvement in the patient's signs and symptoms. Also, the general wellbeing of patient was improved significantly. There were no complications during the entire period of treatment. Also, the follow up of patient in the next 6months and 1 year revealed that patient had no complaints or re accumulation of peritoneal fluid. These kinds of documented cases will help Ayurveda become a mainstream treatment method inside the present medical system and help the patient get the best possible cure in these situations. More invasive therapies will be less necessary since patients will have more options for treatment.

## Scope of the study

The treatment protocol mentioned in the present study, can be standardized and proven when more number of clinical trials will be conducted based on the same.

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