

A CLASSICAL AYURVEDIC MANAGEMENT OF *JALODARA* (ASCITES)

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ABSTRACT

Background: Today, Modern medical science, have lots of facilities and sophisticated technologies for treatment modalities of patient, even though many diseases may still prevail in the society. **Case:** 60 Years aged male patient presenting with *Udaravridhi* (Abdominal distension), *Ubhaypadashotha* (Bilateral pedal edema), *Swashakricchata* (Breathing difficulty), *Agnimandhyata* (Impaired digestion), *Aruchi* (Anorexia) diagnosed as *Udarvyadhi Jalodara* (Ascites) was brought to National institute of Ayurveda, Jaipur. Patient was treated with an integrated approach of Ayurveda. According to Ayurveda, Principle for management of *Jalodara* (Ascites) is *Nityameva Virechayeta* (Regular purgative therapy), *Agnideepana*

(Improvement in digestion), *Balaprapti* (Increase strength), *Yakrituttejjaka* (Stimulant therapy for hepatic function). **Result:** Results were observed in the form of Reduction in abdominal girth, Decreased pedal edema, Improvement in digestion, Improvement in Anorexia, Increased strength etc. and Significant changes in investigations. **Conclusion:** In this case study, Ayurvedic treatment was found very effective in the management of *Jalodara* (Ascites) & *Yakritpleehodara* (Hepatosplenomegaly). Through the *Strotoshodhaka* i.e. *Nityameva Virechayeta* (Regular purgative therapy) principle, the root cause was treated and

this improved the normal functioning of body. This Ayurvedic treatment is safe, cost effective and has no side effect.

KEYWORDS: *Udara Roga, Jalodara, Ascites, Yakrittudara, Alcoholic Liver Cirrhosis, Hepatosplenomegaly, Nityameva Virechayeta, Regular Purgative Therapy.*

INTRODUCTION

Ascites is the accumulation of fluid within the peritoneal cavity. Patients typically note an increase in abdominal girth that is often accompanied by the development of peripheral edema. The development of ascites is often insidious, and it is surprising that some patients wait so long and become so distended before seeking medical attention. Patients usually have at least 1–2 Litre of fluid in the abdomen before they are aware that there is an increase. If ascitic fluid is massive, respiratory function can be compromised, and patients will complain of shortness of breath. Hepatic hydrothorax may also occur in this setting, contributing to respiratory symptoms. Patients with massive ascites are often malnourished and have muscle wasting and excessive fatigue and weakness. The presence of ascites may indicate Liver cirrhosis, Portal hypertension, Hepatitis, Heart failure, Pericarditis and even cancers. People who consume excessive alcohol are at very high risk of developing cirrhosis, which may cause ascites. According to Ayurveda, *Jalodara* is a disease of *Swedavaha* and *Ambuvaha strotodushti* quietly similar to *Udararoga* having कुक्षोराध्मानमाटोपा (Abdominal distension), शोफःपादकरस्य (Swelling on ankle, feet & hand), मन्दाग्नि (Indigestion and loss of appetite), अतिपांडुता (Anemia & jaundice), काश्य (Lean and thin body), मन्दज्वर (Mild fever), क्षीणबल (Weakness), उदकपूर्णदृत्तिकोभसंस्पर्श (fluid thrill) etc.

According to modern science, Ascites is quietly similar to *Jalodara* with sign of Hepatosplenomegaly and symptoms like Nausea, Vomiting, Swelling of feet and ankles, High blood pressure, Loss of appetite, Weakness etc.

In Ayurveda, main causes for *Udararoga* are *Mandagni* (Impaired digestion) and *Garavisha* like *Atimadyapana* (Excessive alcohol consumption). Ayurvedic management for *Jalodara* includes Oral medications based on *Virechana chikitsa* for specific treatment to reduce accumulation of fluid as well as to remove the obstruction at capillaries and lymphatic level. *Ksheerapana* (Only on cow's milk diet) for diet regulation plays an important role in

management of *Jalodara*. An ayurvedic line of treatment for *Jalodara* (ascites) is mainly *Nityameva Virechayeta*. It is useful in case of *Jalodara* (ascites) that has Laxative and Diuretic action to excrete excess fluid out of body.^[1-7]

AIMS AND OBJECTIVES

1. To understand the role and efficacy of Ayurvedic drugs in the management of *Jalodara* (Ascites).
2. To prove the efficacy of Ayurvedic drugs in *Jatharagnimandhya* (Malfunctioning of digestive system) in the management of *Jalodara* (Ascites).
3. To prove the efficacy of Ayurvedic drugs based on *Nityameva Virechayeta* principle in the management of *Jalodara* (Ascites).
4. To prove the efficacy of Ayurvedic drugs based on *Mutravirechana* principle in the management of *Jalodara* (Ascites).
5. To provide a large population suffering from *Jalodara* (Ascites), a future possibility of safer treatment; this can be helpful in reducing the need of steroids and surgical processes.

MATERIALS AND METHODS

1. Clinically diagnosed and registered patient of *Jalodara* (Ascites) was treated with ayurvedic drugs till 45 days.
2. To measure improvement in Subjective as well as Objective Parameters before, during & after treatment.
3. Study design: Case study, Follow up period: 45 days.

CASE REPORT DETAILS: SELECTION OF PATIENT: TABLE NO.-1

A patient of name ABCD, age 60 years old & sex male had complained of:

A. Subjective Parameters: Presenting complaints with duration: Patient having following chief complaints since 20-21days.	
1. Abdominal distension.	7. Swelling in bilateral lower limbs (Pedal edema)
2. Anorexia (Decreased appetite)	8. Heaviness of body.
3. Indigestion.	9. Difficulty in walking.
4. Feel generalized weakness & laziness.	10. Decreased sleeping.
5. Breathing difficulty on exertion along with sitting position.	11. Suffering from anxiety.
6. Nocturnal dyspnoea.	12. Weight gain.
B. History of Present Illness:	
Patient was asymptomatic before 20-21days. Suddenly at one day, he developed swelling in bilateral lower limbs. Next day, he felt bulging of abdomen that gradually increased and caused tension of abdominal wall with breathing difficulty on exertion along with sitting position. After 5-7 days bilateral pedal oedema increased which caused difficulty in walking. He developed abdominal pain at umbilical region, Nausea after having heavy meals, Burning sensation in umbilical region, Weight gain up to	

6-9 kg and Anxiety with abnormal appearance. He had no history of allopathic medication and came to N.I.A.-OPD NO-18 and admitted to him IP.D. Male K.C. Ward for better treatment.
C. History of Past Illness:
1. Patient had no H/O Diabetes mellites, Hypertension, Tuberculosis, Hypothyroidism, Typhoid, Dengue, Malaria, Hernia, Liver disease etc.
2. Patients had no H/O any type of Surgery, Trauma, Sexual Disease, Communicable disease and Chronic Disease, HIV, Hepatitis-B & C.
D. Dietary History:
1. Type of diet-Vegetarian.
2. Regular food habit.
3. Dominant <i>Rasa</i> in diet-All with Salty, Acid, Bitter in dominancy.
4. Alcohol Addiction-18 years regular, 750ml/day.
5. Smoking Addiction-Yes, 3-4 cigarette/day.
E. Family History:
1. Type of family-Single family with 3 members including female daughter.
2. No any relevant treatment history of family member.
F. Socio-economic status: Middle higher.

EXAMINATION OF PATIENT: TABLE NO.-2

A. Ashtavidha Pariksha (Eight-fold Examination)	
1. <i>Nadi</i> – <i>Vatapradhana pitta</i> , Pulse - Rate-104/ min, Rhythm-Regular, Volume-High, Tension-Normal, Force-Normal.	
2. <i>Mala</i> – <i>Malavshatmbha</i> (occasional), Stool - Amount- less than normal, Colour-Dark yellowish brown, Smell-Foul, Nature-Solid, Appearance-Normal.	
3. <i>Mutra</i> – <i>Samyakpraritti</i> , Urine -Amount-6-7 times/day, Colour-Dark yellowish, Smell-Pungent odour.	
4. <i>Jivha</i> – <i>Sama</i> , Tongue -Coated with small ulcers, Colour-Whitish, Nature-Moist, Taste Sensitivity-Normal for all, Normal in shape & sized, No any tumour or nodular structure.	
5. <i>Shabda</i> – <i>Spashta</i> , Voice -Low pitches normal voice with clarity.	
6. <i>Sparsha</i> – <i>Ushna</i> , Touch -Normal in sensitivity, feel both cold & hot touch, Moist in nature, Afebrile.	
7. <i>Druka</i> – <i>Panduta</i> , Eye -Normal in vision, No redness, No H/o Cataract, Glaucoma, Retinal detachment, Pallor-Present, Icterus-Present.	
8. <i>Akriti</i> - <i>Madhyam</i> , Appearance -Lean & thin body build-up with distended abdominal appearance.	
B. Dashavidha Pariksha (Ten-fold Examination)	
1. <i>Prakriti</i> - <i>Vata-Kaphaja</i>	6. <i>Saatmya</i> - <i>Madhayama</i>
2. <i>Vikriti</i> - <i>Dosha-Dushya Samoorcchana</i> , <i>Kapha Pradhana Tridoshaja</i>	7. <i>Satva</i> - <i>Madhayama</i>
3. <i>Sara</i> - <i>Madhayama</i>	8. <i>Ahara-Shakti</i> - <i>Avara</i>
4. <i>Samhanana</i> - <i>Madhayama</i>	9. <i>Vyayaama Shakti</i> - <i>Avara</i>
5. <i>Pramana</i> - <i>Madhayama</i>	10. <i>Vaya</i> - <i>Vridhavastha</i>
C. Srotasa Examination	
1. <i>Pranavaha Srotasa</i> - <i>Alpaalpa Shwasa</i> (Shortened breathing), <i>Sashula Shwasa</i> (Dyspnoea with pain), <i>Shramajanya shwasa</i> (Breathing difficulty on exertion), <i>Ratrijanya shwasa</i> (Nocturnal dyspnoea).	
2. <i>Udakavaha Srotasa</i> - <i>Jihva</i> , <i>Talu</i> & <i>Aushtha shushkta</i> (Dryness of Tongue, Palate & Lips).	
3. <i>Annavaha Srotasa</i> - <i>Anannabhilasha</i> (Lack of desire for food), <i>Aruchi</i> (Anorexia), <i>Avipaka</i> (Indigestion)	
4. <i>Rasavaha Srotasa</i> - <i>Pandu</i> (Anemia), <i>Avasada</i> (Anxiety), <i>Karshya</i> (Emaciation), <i>Agnimandhya</i> (Decreased digestion), <i>Gaurava</i> (Heaviness feeling of body), <i>Angamarda</i> (Bodyache), <i>Jwara</i> (Fever), <i>Avasada</i> (Depression), <i>Karshya</i> (Emaciation)	

5. Raktavaha Srotasa- Kaamala (Jaundice)			
6. Mansvaha Srotasa- NAD			
7. Medovaha Srotasa- Tandra (stupor), <i>Alasya</i> (Laziness)			
8. Ashtivaha Srotasa- NAD			
9. Majjavaha Srotasa- NAD			
10. Shukravaha Srotasa- NAD			
11. Manovaha Srotasa- NAD			
12. Artavaha Srotasa- NAD			
13. Mootravaha Srotasa- NAD			
14. Purishavaha Srotasa- Alpalpa Pureesha (Scanty defecation), <i>Sashoola Pureesha</i> (Painful defecation)			
15. Swedavaha Srotasa- Aswedana (loss of perspiration), <i>Parushya</i> (Roughness of skin)			
D. General Physical Examination			
Appearance- Lean & thin with distended abdomen & Pedal edema, Symmetrical, Temp.- Afebrile.			
P/R- 104/min, R/R- 18/min, B.P.- 110/80 mmHg, Weight- 57 kg., Height- 5 fetes & 6 inches.			
Pallor- Present, Jaundice- Present, Cyanosis- Absent, Oedema- Present at bilateral lower limbs-Pitting type. Lymphnode- Cervical/Axillary/Inguinal-No any sign of lymphadenopathy.			
Skull, Oral cavity/Throat, Neck, Nose, Ear, Eyes, Hair, Bones, Joints, Nails & Skin- Normal in appearance without any deformity.			
E. Systemic Examination			
1. Respiratory Examination: Inspection- B/L symmetrical chest wall, No any scar marks, No any skinny lesions at chest region from front to back side both, No any deformity of chest wall like Kyphosis, Lordosis, Scoliosis etc. Palpation- No Tenderness in chest region, Percussion- Resonant sound present, Auscultation- B/L equal air entry, No added sound present.			
2. Cardiovascular examination: Inspection- Normal precardium, Palpation- No Tenderness in cardiac region, Percussion- Cardiac dullness-Present, Auscultation- S1 & S2-Normal, P/R- 104/min.			
3. GIT Examination-Inspection- Smooth & shiny abdominal skin, Dilated superficial vein in bluish, Many rashes/lesions/pigmentation like Erythema present, 3-4 spider angiomas present, Distended abdomen, No any surgical & scar mark, Inverted umbilicus present, Pulsations are not visible over abdomen, No hernial like structure like Incisional hernia, Umbilical hernia & Inguinal hernia. Palpation- Tense abdomen, Tenderness present in umbilicus region, hypogastric region & right epigastric region, Liver and Spleen not palpable due to tense & distended abdomen with bulging of flanks., No any lump, More in guarding, Rigidity & Skin elasticity. Percussion- Fluid thrill test & Shifting dullness test-Positive, Horse-shoe shaped dullness & Puddle sign-Absent. Auscultation- Abnormal bowel sounds, Vascular bruits, Venous hum, Friction rub & Succession Splash-Absent.			
4. CNS Examination-Higher system examination- Have good consciousness, Intelligence, Behaviour, memory & speech, Rt. Handed, have normal gait, all cranial nerves are well intact, Motor System- Have normal Nutrition, Tone, Power & Co-ordination without involuntary movements. Sensory system- Have normal touch, pain & pressure in sensation. Reflexes- Superficial reflexes, Deep Tandon reflexes & Organic reflexes are within normal limits. Cerebellar sign- Sign of meningeal irritation, Neck rigidity/Kerning sign/Brudzinski sign-Absent.			
A. Laboratory Investigation:			
Test	Before Treatment 12/03/2018	During follow up 19/03/2018	After Treatment 04/04/2018
Blood group	B, Rh-Negative	B, Rh-Negative	B, Rh-Negative
Hb%	6.8gm/dl-Low	7.4gm/dl-Low	6.5gm/dl-Low
RBC Count	2.67×10^6 /uL-Low	2.78×10^6 /uL-Low	2.66×10^6 /uL-Low
WBC Count	12.56×10^3 /uL-High	10.17×10^3 /uL-High	8.9×10^3 /uL-Normal
DLC Count	N%-78-High, L%-17-Low,	N%-70-Normal,L%-19-	N%-61-Normal, L%-29-

	E%-02, M%-03-Low, B%-00,	Normal, E%-02, M%-09-Normal, B%-00	Normal, E%-04-Normal, M%-05-Normal, B%-01-Normal
Others	HTC-22.6% Low, MCV-84.5 fl Normal, M.C.H.-25.5pg Low, M.C.H.C.-30.1gm/dl Low, R.D.W-C.V-19.2% High, R.D.W-S.D-74.5 fl High	HTC-24% Low, MCV-86.3 fl-Normal, M.C.H.-26.6 pg-Low, M.C.H.C.-30.8gm/dl Low, R.D.W-C.V-17.5% High, R.D.W-S.D-67.7 fl High	HTC-23% Low, MCV-86.3 fl-Normal, M.C.H.-24.6 pg-Low, M.C.H.C.-31.8gm/dl-Low, R.D.W-C.V-18.5% High, R.D.W-S.D-69.7 fl High
Platelet count	405×10 ³ /uL-High, MPV-9.5fl Normal, PDW-15.5-Normal, PCT-0.385% High	284×10 ³ /uL-Normal, MPV-10.2 fl Normal, PDW-15.6-Normal, PCT-0.290% High	270×10 ³ /uL-Normal, MPV-11.4 fl Normal, PDW-14.3-Normal, PCT-0.230%-Normal
ESR	16 mm/hr-High	29mm/hr-High	14 mm/hr-High
CT	5:05 Min	-----	-----
BT	2:10 Min	-----	-----
RBS	85.0 mg/dl	-----	100mg/dl-Normal
LFT	Sr. Bilirubin Total-6.9 mg/dl-High, Direct-2.1mg/dl-High, Indirect-4.8mg/dl-High, SGOT-78 IU/L-High, SGPT-34 IU/L, Alk.Phast-409 IU/L-High	Sr. Bilirubin Total-3.1mg/dl High, Direct-1.2mg/dl-High, Indirect-1.9mg/dl-High, SGOT-77 IU/L-High, SGPT-91 IU/L, Alk.Phast-500 IU/L-High, Sr. Albumin-3.2gm/dl-Low, A:G ratio-1.2:1.	Sr. Bilirubin Total-1.1mg/dl-Normal, Direct-0.4mg/dl-High, Indirect-0.7mg/dl-High, SGOT-45 IU/L-High, SGPT-50 IU/L, Alk.Phast-310 IU/L-Normal, Sr. Albumin-5gm/dl-Normal, A:G ratio-1.2:2.
RFT	Sr.Urea-26.0mg/dl, Sr.Creatinine-0.8mg/dl	Sr.Urea-23.0mg/dl, Sr.Creatinine-0.8mg/dl	Sr.Urea-21.0mg/dl, Sr.Creatinine-0.8mg/dl
Lipid Profile	Sr. Choleterol-200mg/dl, Sr. Triglyceride-190mg/dl-High, Sr.HDL-47 mg/dl, Sr.LDL-115mg/dl, VLDL- 38mg/dl.	Sr. Choleterol-200mg/dl, Sr. Triglyceride-190mg/dl-High, Sr.HDL-47mg/dl, Sr.LDL-115mg/dl, VLDL-38mg/dl, Total Protein-5.8 mg/dl.	Sr. Choleterol-208mg/dl, Sr. Triglyceride-175mg/dl-High, Sr.HDL-64mg/dl, Sr.LDL-135mg/dl, VLDL-43mg/dl, Total Protein-7.1 mg/dl.
Urine analysis-R&M	App/color-Dark yellow, Ph-6.5, Sp.Gr-1.030, Sugar-Nil, Protein-Nil, Ep.cell-4-5, W.B.C-6-7, RBC-7-8, Crystal-Amorphous, Cast-Nil, Bact. Flora-Nil.	App/color- Dark yellow, Ph-6.5, Sp.Gr-1.030, Sugar-Nil, Protein-Nil, Ep. cell-4-5, W.B.C-6-7, RBC-7-8, Crystal-Amorphous, Cast-Nil, Bact. Flora-Nil.	App/color-Pale yellow, Ph-6.5, Sp.Gr-1.030, Sugar-Nil, Protein-Nil, Ep cell-1-2, W.B.C-1-2, RBC-1-8, Crystal-Amorphous, Cast-Nil, Bact. Flora-Nil.
HBsAg	Negative	Negative	Negative
HIV	Negative	Negative	Negative
USG Abdomen	Liver cirrhosis, Mild splenomegaly, Mild Hepatomegaly, Moderate ascites.	Liver cirrhosis, Mild splenomegaly, Mild Hepatomegaly, Moderate ascites.	Liver cirrhosis, No splenomegaly, No Hepatomegaly, No ascites.
Differential Diagnosis: Jalodara (Ascites), Vatodara (Excessive gaseous Abdomen),			

<i>Vatajagulma</i> (Flatulence), <i>Udaragatasotha</i> (Sweeling in abdomen)	
Provisional Diagnosis: <i>Jalodara</i> (Ascites)	
Final Diagnosis- <i>Jalodara</i> (Ascites)	
Management: Treatment given during admission in I.P.D. of P.G. Department of Kayachikitsa, NIA, Jaipur.	
A. TREATMENT PLAN:	
Based on <i>Nityameva Virechayeta Chikitsa Siddhanta</i> (Regular Purgative Therapy Protocol)	
1. <i>Punarnavashtaka Kwatha</i> -80 ml. twice a day	Before meal.
2. <i>Punarnavamandoora</i> Table-500 mg. twice a day <i>Yavakshara Bhasma</i> -1 gm. twice a day.	After meal with lukewarm cow's milk.
3. <i>Arogyavardhani Vati</i> -250 mg. twice a day a day.	
4. Syrup M-Liv-3TSF (15 ml.) twice a day a day.	After meal.
5. <i>Kutaki Choorna</i> -2 gm. H.S.	With lukewarm cow's milk.
6. <i>Guduchi Siddhaksheera</i> -100 ml. twice in a day.	After meal.
7. Patient was only at cow's milk diet 3 liter per day as well as Papaya fruits 500gm. twice a day.	

OBSERVATION: TABLE NO.-3**ASSESSMENT OF SUBJECTIVE PARAMETERS BY GRADING SYSTEM****1. Abdominal distention**

1. No ascites.	0
2. Mild ascites detectable only by ultrasound examination.	1
3. Moderate ascites manifested by moderate symmetrical distention of the abdomen.	2
4. Large or grass ascites with marked abdominal distention.	3
5. Large or grass ascites with marked abdominal distention with bilateral pedal edema.	4

2. Anorexia

1. Willing toward all <i>Bhojya Padartha</i> .	0
2. Unwilling toward some specific <i>Ahara</i> but less than normal.	1
3. Unwilling toward some specific rasa i.e <i>Katu/Amala/Madhura</i> food.	2
4. Unwilling for food but could take the meal.	3
5. Totally unwilling for meal.	4

3. Indigestion

1. No Indigestion.	0
2. Indigestion / prolongation of food digestion period occasionally related to heavy meal.	1
3. Indigestion occurs daily after each meal takes 4 to 6 hrs for <i>Udagarashuddhi</i> etc. <i>Lakshana</i> .	2
4. Eat only once in a day and does not have hunger by evening.	3
5. Never gets hunger always feeling heaviness in abdomen.	4

4. Weakness

1. No weakness (doing satisfactory work with proper vigor & in time).	0
2. Doing satisfactory work/late initiation, like to standing comparison to walk.	1
3. Doing unsatisfactory work/late initiation, like to sitting comparison to stand.	2
4. Doing little work very slow, like to lied own in comparison to sit.	3
5. Don't want to do work/no initiation, like to sleep in comparison to lie down.	4

5. Breathlessness on exertion

1. No dyspnea.	0
2. Dyspnea on prolonged and heavy exertion.	1
3. Dyspnea on moderate exertion.	2
4. Dyspnea on mild exertion.	3
5. Dyspnea even at rest.	4

6. Nocturnal Dyspnoea

1. No nocturnal dyspnoea.	0
2. Nocturnal dyspnea persist 0 to 2 hours.	1
3. Nocturnal dyspnea persist 2 to 4 hours.	2
4. Nocturnal dyspnea persist 4 to 6 hours.	3
5. Nocturnal dyspnea persist 6 to 8 hours.	4

7. Swelling in bilateral lower limbs (Pedal edema)

1. No edema	0
2. Mild Unilateral edema	1
3. Mild bilateral edema	2
4. Moderate bilateral edema	3
5. Severe bilateral edema	4

8. Heaviness of body

1. No feeling of heaviness.	0
2. Occasional feeling of heaviness.	1
3. Continuous feeling of heaviness, but patient does usual work.	2
4. Continuous feeling of heaviness which hampers usual work.	3
5. Unable to do any work due to heaviness.	4

9. Difficulty in walking

1. No Difficulty in walking without dyspnoea.	0
2. Difficulty in walking after 400-600 steps and suffer from dyspnoea.	1
3. Difficulty in walking after 400-200 steps and suffer from dyspnoea.	2
4. Difficulty in walking after 200 to 100 steps and suffer from dyspnoea.	3
5. Unable to walk no more any steps and suffer from dyspnoea.	4

10. Sleep pattern

1. Sleep in any posture comfortably (6-8 hours).	0
2. Sleep in any posture but disturbed.	1
3. Sleep in propped up position (4-6 hours).	2
4. Sleep in sitting posture (1-2 hours).	3
5. Cannot sleep in any posture.	4

11. Suffering from anxiety

1. No anxiety.	0
2. Anxiety that hamper sleeping upto 1 to 2 hours.	1
3. Anxiety that hamper sleeping upto 2 to 3 hours.	2
4. Anxiety that hamper sleeping upto 3 to 4 hours.	3
5. Anxiety that hamper sleeping upto 4 to 5 hours.	4

12. Weight gain

1. No weight gain.	0
2. Weight gain upto 0 to 3 kg.	1
3. Weight gain upto 3 to 6 kg.	2
4. Weight gain upto 6 to 9 kg.	3
5. Weight gain upto 9 to 12 kg and above.	4

VALUE OF EACH SCORE IN PROPORTION TO PERCENTAGE (%): TABLE NO.-**4**

A. Score (B.T.)	Severity Grading (%) (Signs & Symptoms)	B. Score (A.T.)	Improvement Grading (%) (Signs & Symptoms)
0	Absent (0%)	0	No Improvement (0%)
1	Mild (25%)	1	Mild Improvement (25%)
2	Moderate (50%)	2	Moderate Improvement (50%)
3	Severe (75%)	3	Better Improvement (75%)
4	Highly Severe (100%)	4	Completely Improvement (100%)

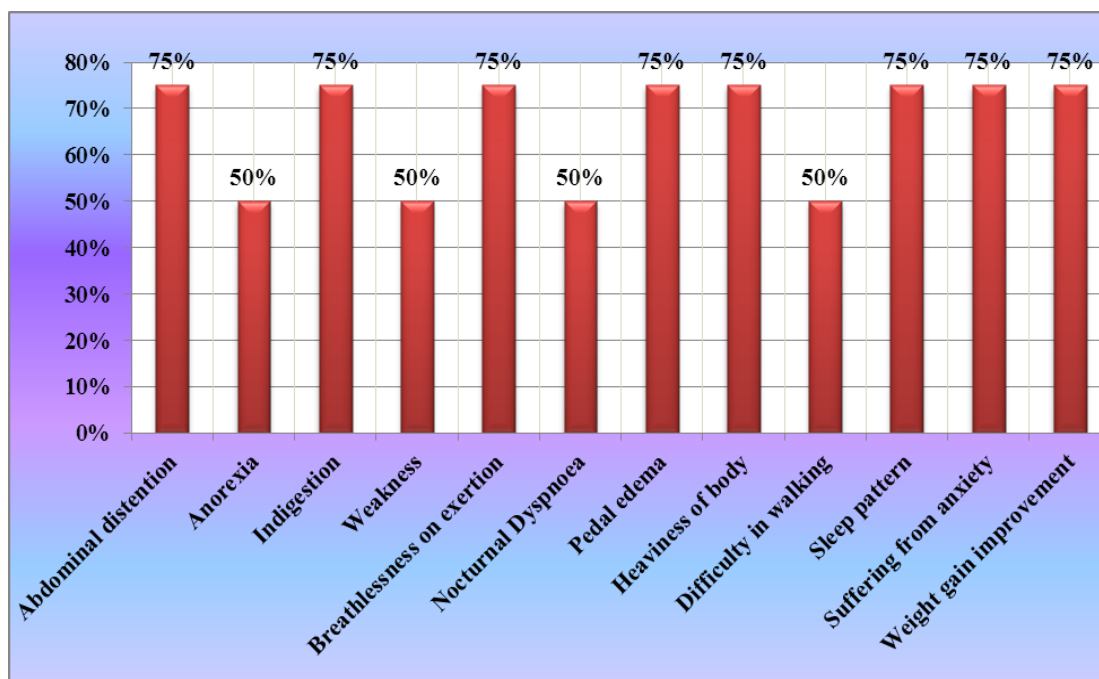
B.T. =Before Treatment, A.T. =After Treatment.

RESULTS**A.) IMPROVEMENT IN SUBJECTIVE PARAMETERS: TABLE NO.-5**

Signs and Symptoms	A. Score (B.T.)	B. Score (A.T.)	Difference (A.T.-B.T.)	Improvement (%)
1. Abdominal distention	4	1	3	Better Improvement (75%)
2. Anorexia	2	0	2	Moderate Improvement (50%)
3. Indigestion	3	0	3	Better Improvement (75%)
4. Weakness	3	1	2	Moderate Improvement (50%)
5. Breathlessness on exertion	4	1	3	Better Improvement (75%)
6. Nocturnal Dyspnoea	2	0	2	Moderate Improvement (50%)
7. Swelling in bilateral lower limbs (Pedal edema)	4	1	3	Better Improvement (75%)
8. Heaviness of body	4	1	3	Better Improvement (75%)
9. Difficulty in walking	3	1	2	Moderate Improvement (50%)
10. Sleep pattern	4	1	3	Better Improvement (75%)
11. Suffering from anxiety	4	1	3	Better Improvement (75%)
12. Weight gain improvement	4	1	3	Better Improvement (75%)

B.T. =Before Treatment, A.T. =After Treatment.

*Weight gain improvement is a decrement in total body weight after treatment compared to before treatment which is actually weight of drained ascitic fluid and pedal edematous fluid through regular purgative and diuretic therapy, mentioned in Table No-7.



IMPROVEMENT CHART: SUBJECTIVE PARAMETERS: FIGURE 1

B. IMPROVEMENT IN ABDOMINAL GIRTH: TABLE NO-6

Sr. No.	Date	Abdominal Girth (At Umblicus)	Distance between Lower end of Xiphisternum to Umblicus	Distance between Umblicus to Pubis symphysis
1.	13.03.2018	88.0 cm	20.0 cm	18.0 cm
2.	16.03.2018	85.5 cm	19.5 cm	17.5 cm
3.	19.03.2018	83.0 cm	18.5 cm	17.0 cm
4.	22.03.2018	80.5 cm	17.5 cm	16.5 cm
5.	25.03.2018	77.5 cm	17.0 cm	16.0 cm
6.	28.03.2018	75.0 cm	16.5 cm	15.5 cm
7.	31.03.2018	73.5 cm	16.0 cm	15.0 cm
8.	03.04.2018	71.5 cm	16.0 cm	15.0 cm
9.	06.04.2018	69.5 cm	15.5 cm	14.5 cm
10.	09.04.2018	67.5 cm	14.5 cm	14.5 cm
11.	12.04.2018	65.0 cm	14.5 cm	14.0 cm
12.	15.04.2018	64.0 cm	14.0 cm	14.0 cm
13.	18.04.2018	62.5 cm	14.0 cm	13.5 cm
14.	21.04.2018	61.0 cm	13.5 cm	13.0 cm
15.	24.04.2018	60.5 cm	13.0 cm	13.0 cm
	Follow up Period: 45 days	27.5 cm Decrement as an improvement	17.0 cm Decrement as an improvement	5.00 cm as an improvement

C. IMPROVEMENT IN WEIGHT & PEDAL EDEMA: TABLE NO-7

Sr. No.	Date	Weight chart	Just below Knee	Just above ankle
1.	13.03.2018	57.0 kg.	Rt. 35.0 cm, Lt. 34.0 cm.	Rt. 30.0 cm, Lt. 31.0 cm.
2.	16.03.2018	56.0 kg.	Rt. 34.5 cm, Lt. 33.5 cm.	Rt. 29.5 cm, Lt. 29.5 cm.
3.	19.03.2018	55.0 kg.	Rt. 34.0 cm, Lt. 33.5 cm.	Rt. 29.0 cm, Lt. 28.5 cm.
4.	22.03.2018	54.5 kg.	Rt. 33.5 cm, Lt. 33.0 cm.	Rt. 28.5 cm, Lt. 28.0 cm.
5.	25.03.2018	54.0 kg.	Rt. 33.0 cm, Lt. 33.0 cm.	Rt. 28.0 cm, Lt. 27.5 cm.
6.	28.03.2018	53.5 kg.	Rt. 32.5 cm, Lt. 33.0 cm.	Rt. 27.5 cm, Lt. 27.0 cm.
7.	31.03.2018	53.0 kg.	Rt. 32.0 cm, Lt. 32.5 cm.	Rt. 27.0 cm, Lt. 26.5 cm.
8.	03.04.2018	52.5 kg.	Rt. 31.5 cm, Lt. 32.0 cm.	Rt. 26.5 cm, Lt. 26.0 cm.
9.	06.04.2018	52.0 kg.	Rt. 31.0 cm, Lt. 32.0 cm.	Rt. 26.0 cm, Lt. 25.5 cm.
10.	09.04.2018	51.5 kg.	Rt. 30.5 cm, Lt. 31.5 cm.	Rt. 25.5 cm, Lt. 25.0 cm.
11.	12.04.2018	51.0 kg.	Rt. 30.0 cm, Lt. 31.5 cm.	Rt. 25.0 cm, Lt. 24.5 cm.
12.	15.04.2018	50.0 kg.	Rt. 29.5 cm, Lt. 31.0 cm.	Rt. 30.0 cm, Lt. 31.0 cm.
13.	18.04.2018	49.0 kg.	Rt. 29.0 cm, Lt. 31.0 cm.	Rt. 29.5 cm, Lt. 29.5 cm.
14.	21.04.2018	48.5 kg.	Rt. 29.0 cm, Lt. 30.5 cm.	Rt. 29.0 cm, Lt. 28.5 cm.
15.	24.04.2018	48.0 kg.	Rt. 29.0 cm, Lt. 30.5 cm.	Rt. 28.0 cm, Lt. 28.5 cm.
	Follow up Period: 45 days	9 kg Decrement as an improvement	Rt. 6.0 cm. & Lt. 3.5 cm. Decrement as an improvement	Rt. 2.0 cm. & Lt. 2.5 cm. Decrement as an improvement

Result Summary

After 45 of days follow up period treatment.
1. Abdominal girth improved upto 27.5 cm. of decrement, mentioned in Table no.6
2. Distance between Lower end of Xiphisternum to Umblicus improved upto 17.0 cm. of decrement, mentioned in Table no.6
3. Distance between Umblicus to Pubis symphysis improved upto 5.00 cm of decrement, mentioned in Table no.6
4. Pedal edema assessment Just below Knee improved upto Rt. 6.0 cm. & Lt. 3.5 cm. of decrement, mentioned in Table no.7
5. Pedal edema assessment Just below Knee improved upto Rt. 2.0 cm. & Lt. 2.5 cm. of decrement, mentioned in Table no.7
6. Body Weight assessment improved upto 9 kg of decrement, mentioned in Table no.7
7. Improvement in subjective parameters were found simultaneously, mentioned in Table no.5
8. Improvement in objective parameters were found, mentioned in Table no.2

DISCUSSION

Pharmacological action of Drugs in breakdown of pathogenesis of *Jalodara* (Ascites)

1. *Punarnavadi Mandura*:^[9] **Ingredients:** *Punarnava* (*Boerhavia Diffusa*), *Nishotha* (*Operculina Turpethum*), *Shunthi* (*Zingiber Officinale*), *Kalimircha* (*Piper Nigrum*), *Pippali* (*Piper Longum*), *Vidanga* (*Embelia Ribes*), *Devdaru* (*Cedrus Deodara*), *Chitraka* (*Plumbago Zeylanica*), *Kushta* (*Saussurea Lappa*), *Haldi* (*Curcuma Longa*), *Haritaki* (*Terminalia Chebula*), *Bibhitaki* (*Terminalia Bellirica*), *Amalaki* (*Emblica officinalis*), *Danti* (*Baliospermum Montanum*), *Chavya* (*Piper Chaba*), *Indrayava* (*Holarrhena*)

Antidysenterica), *Kutki* (*Picrorhiza Kurroa*), *Pippalimoola* (*Piper Longum*), *Mustaka* (*Cyperus Rotundus*), *Kakrasinghi* (*Pistacia Integerrima*), *Kalajeera* (*Carum Carvi*), *Ajwaina* (*Trachyspermum Ammi*), *Kayaphala* (*Myrica esculenta*), *Mandoora Bhasma* (Ash of purified Iron) and *Gomutra* (Cow's Urine). **Pharmacological actions:** It is an effective treatment for iron deficiency anemia. It significantly improves the hemoglobin level and reduces the symptoms of anemia. According to study, it significantly increases the serum level of iron and ferritin and improves total iron binding capacity. It is also helpful in cases of chronic severe anemia which causes edema (swelling). It acts in two ways; first, it improves hemoglobin level and may also stimulate the formation of the blood. The second action is that it induces diuresis and reduces the accumulated fluids in the body. Generally, it reduces all symptoms of anemia including extreme fatigue, pale skin, breathing troubles, dizziness, weakness, cold hand and feet, uncomfortable tingling sensation in the legs and fast heartbeat. In Liver diseases, it acts as Hepatoprotective and induces regeneration of the hepatocytes (liver cells). The most common causes of ascites in liver diseases are cirrhosis of the liver, hepatitis B and hepatitis C. It can help to manage congestive heart failure. It is diuretic, it detoxifies the blood, removes its impurities and toxins, and it improves blood circulation. It promotes diuresis and reduces the fluid retention. It is commonly used in the treatment of chronic renal failure (CRF). It provides benefits for improving the hemoglobin level in kidney patients. As it works on *Kapha Dosh*, it also reduces fat accumulation in the liver cells, which also prevents and treats fatty liver disease and improves the liver functions. It is useful in liver and kidney diseases. It also helps to reduce edema in legs, ankles and feet that caused by heart diseases such as congestive heart failure. So, we can see its main indication is Edema and Ascites, which may occur due to any underlying cause related to Heart, Liver and kidneys. Swelling also occurs in anemia which is treatable with it. It also has some appetizer herbs which improves appetite. Ascites is a condition in which fluid accumulates in the serous cavities. It mainly occurs in liver disease, congestive heart failure. **Medicinal Properties:** Hematogenic, Haematinic, Diuretic, Depurative, Hepatoprotective, Cardioprotective, Anti-inflammatory, Anti-gout, Antihyperlipidemic, Digestive Stimulant, Antioxidant, Immunomodulatory, Carminative and Cholagogue. **Therapeutic Indications:** Anemia, Jaundice, Hepatitis, Dyspnoea, Phthisis, Abdominal Distension, Chronic Colitis, Gout & Hyperuricemia, Uremia, Intestinal Worms, Fatty Liver Disease (Hepatic Steatosis), Liver Cirrhosis, Polycystic Liver Disease, Ascites.

2. **Yavakshara:**^[10] It is an alkali preparation made with the whole plant of *Hordeum Vulgare* or barley.

Pharmacological actions: It is used for treating Urinary diseases like calculi, Bloating, Abdominal pain, Bloating, Ascites and abdominal pain. The disease for which it is used are: Heart disease, Anemia, Malabsorption syndrome (IBS), Enlargement of spleen, Constipation, Obstruction in the throat, Coughing and piles.

3. **Arogyavardhani Vati:**^[11] **Ingredients:** *Kutki (Picrorhiza Kurroa)*, *Suddha Guggulu (Commiphora mukul)*, *Chitraka (Plumbago Zeylanica)*, *Shilajita (Asphaltum)*, *Amalaki (Embllica officinalis)*, *Bibhitaki (Terminalia Bellirica)*, *Haritaki (Terminalia Chebula)*, *Shuddha Parad (Purified Mercury)*, *Suddha Gandhaka (Purified sulpher)*, *Loha Bhasma (Purified Iron ash)*, *Abhraka Bhasma (Purified mica ash)*, *Tamra bhasma (Purified Copper ash)*. **Pharmacological actions:** It acts as Digestive Stimulant, Appetizer, Carminative, Mild laxative, Anti-obesity, Liver tonic, Anti-inflammatory, Antipruritics, Demulcent, Anti-hypertensive, Hematogenic, Mild Expectorant. It mainly works on digestive system. If digestion becomes poor, it leads to various diseases in the body. Generally, poor digestion may cause mal absorption and production of more toxins (AMA) in the body, which ultimately cause a variety of disorders. The second factor is constipation. Constipation is also a root of many diseases in the body. It works on both. It improves digestion and corrects metabolic activities in the body. It also cures constipation and prevents diseases. It is generally good for Jaundice, Fatty liver syndrome, Edema associated with liver disease, inflammatory diseases of liver, Viral hepatitis, Alcoholic hepatitis. All these properties make it effective in almost all types of liver disorders. However, it may not work alone, so the following herbs can help to potentiate its action in liver diseases. These herbs should be used as adjuvants or supportive remedies in liver diseases. It has anti-inflammatory and anti-viral properties. Some of its ingredients also have anti-bacterial properties. **Therapeutic Indications:** It is useful in Diseases of heart, Stomach, Skin, Teeth and Gums. It is helpful in following health conditions: Hypertension, High cholesterol levels, Atherosclerosis, Chronic Constipation, Hepatitis, Inflammation of gallbladder, Loss of appetite, Indigestion, Gas or flatulence, Bloating, Abdominal distension, Itching, Eczema, Psoriasis, Urticaria and Pyorrhea.

4. **Punarnavashtaka Kwatha:**^[12] **Ingredients:** *Punarnava (Boerhavia Diffusa)*, *Haritaki (Terminalia Chebula)*, *Nimba (Azaricta indica)*, *Daruharidra (Berberis aristata)*, *Kutaki*

(*Picrorhiza Kurroa*), *Patola (Trichosanthes Dioica)*, *Guduchi (Tinospora cardifolia)* and *Shunthi (Zingiber Officinale)*. **Pharmacological actions:** It is used in inflammatory conditions like Myxoedema, Ascites and Anasarca. It helps to protect Liver and Kidney cells by the following properties: Diuretic, Hepato protective, Renal protective and Mild laxative.

5. M-Liv Syrup:^[13] **Ingredients:** *Bhaumiamalaki (Phyllanthus niruri)*, *Guduchi (Tinospora cordifolia)*, *Nimba (Azadiracta indica)*, *Haritaki (Terminalia Chebula)*, *Bibhitaki (Terminalia Bellirica)*, *Amalaki (Embllica officinalis)*, *Kalmegha (Andrographis peniculata)*, *Kutaki (Picrorhiza Kurroa)* & *Pippali (Piper Longum)*. **Pharmacological action:** It acts as appetizer which helps improving digestion and appetite. It has hepatoprotective action against almost all types of liver toxins and protects liver of people taking alcohol, early cirrhosis or pre-cirrhotic conditions and Hepatotoxicity induced by chemicals, radiations, medicines or chemotherapy. It acts as Potent Digestive Stimulant, Anti-viral, Anti-inflammatory, Immunomodulatory, Hepatocellular regeneration promoter, Antioxidant & Haematinic. **Therapeutic Indications:** It is useful in general Liver dysfunction, Acute and chronic hepatitis, Jaundice, Fatty degeneration of liver, Hepatotoxic drugs, Promotes appetite, Growth and Digestion, Hepatitis A, Hepatitis B, Hepatitis C, Hepatitis D, Hepatitis E, Alcoholic Hepatitis, Anorexia Nervosa, Fatty Liver Disease, Mild constipation (with mucus discharge and sticky stools), Inflammation of gallbladder and Protein-energy malnutrition.

6. Kutaki Choorna (*Picrorhiza Kurroa*):^[14] **Pharmacological actions:** Due to its laxative property, it has been used for treating digestive problems such as upset liver, pancreas and stomach. It enhances the functioning of liver by normalizing the enzymes present in it. It is helpful in bile formation and removing out of the liver. Traditionally it is used for the treatment of liver related disorders such as Hepatitis, Alcoholic liver disease, Alcoholic fatty liver and Alcoholic liver cirrhosis. It is a popular liver tonic herb. It is highly potent to regenerate damaged hepatic lobules by its detoxifying properties. It is a good for constipation and helps attaining a healthy digestive system. Thus, no one drug is better than it for liver disorders.

7. Guduchi Siddhaksheera (*Tinospora cardifolia*):^[15] **Pharmacological actions:** It has the ability to detoxify liver and help in proper functioning. It acts on Fatty liver disease. One of the biggest benefits, it can help stimulate the regeneration of liver tissue that has been damaged. It helps in good digestion. It helps to remove toxins, purifies blood, beneficial in liver disease and urinary tract infection. It is very beneficial in improving digestion and

treating bowel related issues. It boosts immunity as a universal herb. It is power house of the Antioxidants. It works as an Anti-inflammatory, Antipyretic & Anti-arthritis agent. It is an Adaptogenic medicine. It is an excellent *Rasayana* or Rejuvenator tonic which has the ability to pacify all three types of *Doshas* and balance them in the body.

8. *Dodughdha* (Cow's milk):^[16] *Charaka* calls "*Goksheera*" (cow's milk) "*Jeevaniya*" (restores life) and "*Rasayana*" (regenerative/anti-aging). It is called as *Amrita* (Life saving drug) for *Udararogas* due to its highly proteinaceous value of albumin etc. These proteins are responsible for subsiding of edema. It has a sweet taste, a cooling effect, balances all three *Doshas*, but it has better effect with regard to balance, on *Vata* and *Pitta* constitutions, and lesser effect on *Kapha dosha* because it increases it if consumed in improper way. It acts as *Saraguna* (Laxative) by which *Ama dosha* is removed also from body. When the milk is consumed properly and digested slowly, it nourishes all tissues and balances the emotions. It is one of the most important foods for promotion of *Ojas*, and *ojas* brings power, happiness, good immune system and general satisfaction.

Patient was treated with an integrated approach of Ayurvedic treatment. According to Ayurveda, treatment of *Udararoga* is *Nityameva Virechayeta* (Regularly purgative therapy), *Agnideepana* (improve digestive system), *Balaprapti* (increase strength), *Yakrituttejjaka* (stimulant for hepatic function). Appreciable results were observed in the form of reduction in abdominal girth, decreased pedal edema, increased appetite and increased strength. *Chikitsasidhantha* for *Udarvyadhi* is '*Nityameva Virechayeta*'

Virechana checks improper *Jatharagni* and *Dhatvagni*. After *Virechana*, *Jatharagni* and *Dhatvagni* increases. It has laxative action which helps to eliminate toxins out of the body which is caused due to chronic constipation in ascites. It possesses Cholagogue, Hepatoprotective and Liver stimulant action. Therefore, it is useful in generalized edema and Ascites having Laxative and Diuretic action which helps to excrete excess fluid out of body. Herbs present in it have Anti-flatulent action and reduces gas formation in the alimentary canal. Hence, it reduces Intestinal gas, Flatulence, Bloating and Abdominal distension.

अपां दोषहराण्यादौ प्रद्ध्यादुदकोदरे॥

As mentioned in *Charaka*, In *Jalodara* excessive accumulated waste fluid have to be washed out. So, we can use the drugs which have *Pittavirechaka* or *Mutravirechaka* properties.

CONCLUSION

The pathological factors responsible for *Udarvyadhi* are vitiated *Tridosha* and reduced status of *Agni*. *Virechana* is unique treatment mentioned for *Udararoga*. Removal of vitiated *Doshas* mainly *Pitta* and normalize *Yakritdushti* which was caused due to *Atimadyapana* was achieved by this integrated approach of Ayurvedic treatment successfully. By this line of treatment there is significant improvement in Abdominal girth, Appetite, Strength. There is also significant improvement in laboratory findings. So, Ayurveda can play very important role in treating patients of ascites. An effort was made to manage the present case successfully with Ayurveda treatment following the *Chikitsa Siddhant* of *Udararoga*. Patient showed good overall improvement in his condition which is evident by changes in his investigative findings as well as his general wellbeing. In this case study, Ayurvedic treatment was found very effective in the management of *Jalodara* (Ascites) & *Yakritpleehodara* (Hepatosplenomegaly).

Through the *Strotoshodhaka i.e. Nityameva Virechyeta* (Regular Purgative therapy) principle, the root cause was treated and this improved the normal functioning of body. This Ayurvedic treatment is safe, cost effective and has no side effect. Further studies to evaluate the role of Ayurveda treatment in the management of such complicated cases need to be carried out.

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