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Case Study

MANAGEMENT OF ASCITES (JALODARA) THROUGH ANCIENT SYSTEM OF MEDICINE- A CASE REPORT

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ABSTRACT

Ascites is a pathologic condition and accumulation of free fluid where fluid accumulates in the peritoneal cavity commonly observed in decompensated cirrhotic states. Symptoms may include increased abdominal size, increased weight, abdominal discomfort and shortness of breath. There is no specific treatment where ascetic pathology will cure completely. By contemporary science where patient gets temporary relief and symptomatic relief from their complaints. But after Paracentesis again fluid gets collected in the peritoneal cavity. In such cases, Avurvedic treatment gives satisfactory relief from complaints along with hidden pathology. In this present article above mentioned ascites i.e., nothing but one among the liver pathology attempted to correlate with Jalodara which is very well mentioned in classics. A 45 years old male patient came to our Medicine outpatient department having complaints of Kshudhamandya (Loss of appetite), Annanabhilasha (Anorexia), Ubhaya Paada Shotha (Oedema), Netra Pitata (Icterus), Udara Vriddhi (fullness in flanks). Subject had treated thirteen days by Shodhana Aushadhis, Shamana Aushadhis also by diet restriction.

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INTRODUCTION

The term "ascites" is derived from the Greek term "askos" in reference to its similar appearance to a wine bag or sac^[1]. Ascites is one of the most frequent complication to cirrhosis occurring in approximately 60% of patients within 10 years of poor prognosis. The development of ascites in the setting of cirrhosis represent a landmark in the natural history of cirrhosis, predicting a poor prognosis with 50% mortality within 3 years^[2]. The principles behind treatment of ascites include diuretics, paracentesis, insertion of a trans-jugular intrahepatic portosystemic shunt (TIPS)^[3], as well as managing complications to ascites such as spontaneous bacterial peritonitis (SBP)^[3]. By this treatment, only fluid amount decreases but chances of reoccurrence of fluid are more. So, here is attempt to present single case study. Ascites resembles Udararoga in Ayurveda^[4]. Vata is main culprit for *Udararoga*^[5]. Our body needs fuel in the form of food (Aahara), but it is not absorbed as it is, first it has to go through whole process of digestion

with action of *Agni*.^[6,7] In *Udara*, involvement of *Tridoshas* are mentioned^[8]. Among *Tridosha*, the *Prakupita Vata* gets accumulated in *Udara* between *Twaka* and *Mamsa* leading to *Shotha*, which is known as *Jalodara*^[9]. *Mandagni* is one of the causes for *Jalodara* along with *Vata*^[10]. There are multiple factors involved in this causation as mentioned above. To get relief, proper treatment and diet is required. For this, salt and water restriction is mainly focused. Patient is only allowed to consume *Godugdha*^[11] as complete diet. By this treatment plan, *Samprapti Vighttana* has occurred.

Patient information

A 45 year old Male subject came to our hospital of *Kayachikitsa* outpatient department. He had complaints of *Kshudhamandya* (Loss of appetite), *Anannabhilasha* (Anorexia) since 2 months followed by *Udara Vridhdhi* (fullness in flanks), *Ubhaya Paada Shotha* (*Nonnmati*- pitting oedema), *Netra Pitata* (Icterus) since 1 month, along with that, he had associated complaints i.e., Alpa Mutrapravritti (urine incontinence) (Sadaha), Aayasena Shwaskashtata (Dysponea), Kandu (Itching) and Daha on Udarpradesha. Severity gets increased during 8 days for those associated symptoms. For above mentioned complaints, he consulted a physician. He was diagnosed as Ascites. For this, he had undergone Paracentesis 20 days back before the approaching us. Around 3 litres fluid was removed in one setting. Outside prognosis was not so good, so, subject again faced same problem, so he approached for special Ayurvedic Treatment.

Clinical findings and diagnostic assessments

On OPD base, the patient was undergone below examination. By this, we could conclude as there was accumulation of fluid.

Inspection

The skin was tightened and shiny. The umbilicus was everted. There was no muscle wasting. Spider Navae sign was absent. By this observations, there is possibility of accumulated fluid in the peritoneal cavity.

Palpation

Superficially tenderness was present so, liver and spleen were not palpable by dipping method.

Percussion

Fluid Thrill Test, Shifting dullness and Horse shoe sign were positive.

Timeline

Subject had undergone with the process of Paracentesis 20 days before the admission to our hospital. In one setting around 3 litres of fluid was removed. He was complaining about Kshudha*mandva* (Loss of appetite), *Anannabhilasha* (Anorexia) from 2 months followed by Udara Vridhdhi (Fullness in flanks), Ubhaya Paada Shotha (Nonnamiti- Pitting oedema), *Netra Pitata* (Icterus) from 1 month. Severity of Alpa Mutrapravritti (Urine incontinenece) (Sadaha), Aavasena Shwaskashata (Dysponea), Udarpradeshi Kandu (Itching) and Daha increased from last 8 days. Also, he had history of Jaundice which was treated by physician. He faced same complaints again as mentioned above due to his continuation of addiction. Patient had shown signs of tachycardia (90min), Oliguria, Pallor and Icterus. RS- decreased air entry bilateral lower zone, Tremors were absent and Pitting oedema was present B/L LL. Investigation was done.

5					
	17/12/2019	28/12/2019			
Hb	8.3 gm/dl	10.5gm/dl			
WBC	9400/mm3	8100/mm3			
Platelet	364000/mm3	408000/mm3			
Bilirubin(T)	1.56mg/dl	1.36mg/dl			
(D)	0.40gm/dl	0.5mg/dl			
(ID)	1.16mg/dl	0.86mg/dl			
SGPT	206U/L	94U/L			
SGOT	181U/L	87U/L			
Alkaline Phosphate	185U/L	192IU/L			
BSL(R)	82mg/dl				
Sr. Creatinine	0.7mg/dl				
B.T.	1min.57sec.				
C.T.	4 min.50sec.				
Urine (R)	Bile Salt/pigment-Present				
Total Protein	7.9gm/dl				
Australia Antigen Test	Negative				

USG (Abdomen) 5/12/2019

Mild hepatomegaly with coarse echo texture of liver parenchyma mild ascites.

USG (Abdomen and Pelvis) 23/12/2019

Moderate hepatomegaly with mild splenomegaly with changes of liver cirrhosis with portal hypertension with gross ascites and mild bilateral pleural effusion, No E/O focal mass / Neoplasmin liver/ Spleen/ Pancreas, No E/O GB Calculi/ GB mass seen.

Materials and Methods

Therapeutic Intervention

As he was diagnosed with *Jalodara* in which *Tridoshas* are involved but showing different signs

and symptoms mainly *Vata* and *Kapha* are culprited. He was admitted in hospital, follow up was taken daily and treated with*Deepana- Pachana Shamana Aushadhis*

Aushadhis, Nitya Virechana, Shamana Aushadhis, Arka and Eranda Patta Bandhana.

Date	Treatment	Matra (Dose)	Kala	Anupana	
18/12 to 20/12	Pachak Vati	1 TDS	Vyanoudana Kala	Koshna Jala	
19/12/2019	Laghu Sutashekhar	500 mg	Vyanoudana Kala	Koshna Jala	
21/12 to 30/12	Arogyavardhini	Each 500 mg	Vyanoudana Kala	Koshna Jala	
	Daruharidra				
	Sharpunkha				
21/12 to 30/12	Avipattikar Churna	2 gm	Nishakali	Koshna Jala	
22/12/2019	Shankh Vati	250 mg	Vyanoudana Kala	Koshna Jala	
23/12 to 30/12	Kamdudha Rasa	1 gm	Vyanoudana Kala	Koshna Jala	
24/12 to 30/12	Guduchyadi Churna	10 gm	Vyanoudana Kala	Koshna Jala	
26/12 to 30/12	Hingavashtaka Churna	125 mg	Muhurmuhu	Mudga Yusha	

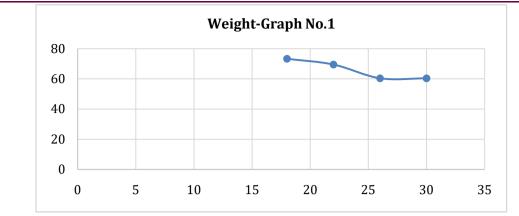
Panchakarma treatment

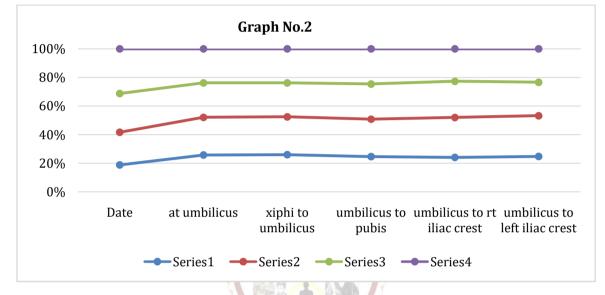
19/12 to 21/12	Haritaki Churna		5 gm	Abhakta		Koshna Dudha	
22/12 to 23/12	Haritaki Churna		3 gm	Abhakta		Koshna Dudha	
24/12 to 25/12	Haritaki Churna		5 gm	Abhakta		Koshna Dudha	
26/12 to 27/12	Haritaki Churna		3 gm	Abhakta		Koshna Dudha	
28/12 to 29/12	Haritaki Churna		5 gm	Abhakta		Koshna Dudha	
Date		Treatment		5	Duration		
27/12/2019 to 29/12/2019		Arka Patra Bandhana		3	2 hrs.		
30/12/2019		Eran	Eranda Patra Bandhana		2 hrs.		

Follow up and outcomes

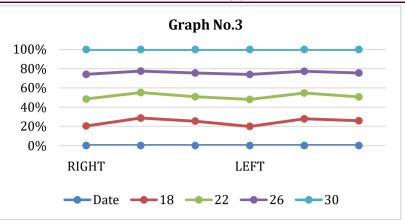
He was treated from 18 Dec.2019 to 30 Dec. 2019 assessed by weight, Abdominal Girth, measurement from Xiphisternum to Umbilicus, Umbilicus to pubic symphysis, Umbilicus to right and left iliac crest also at mid-thigh, mid ankle, mid-calf because of oedema over there. Clinical assessment measures showed gradual improvement. The outcome is mentioned in chart and also shown in graph no. 1 and graph no.2.

Date	Weight in kg	At umbilicus in cm	1cm above umbilicus	1cm below umbilicus	Xiphi to Umbilicus	Umbilicus to pubis
18/12/19	73.3	99.5			24	15
19/12/19	70.7	101.5	102	100	24.5	16
20/12/19	71.4	101.5	102	100	25	16
21/12/19	69.1	101.5	101	100	24.5	16
22/12/19	69.5	102	102	101	24.5	16
23/12/19	64.7	98	99	95	24	15
24/12/19	62.6	100	99	98	25	15
25/12/19	61	95	96	95	23	15
26/12/19	60.4	93	94	93	22	15
27/12/19	59.2	90	92	91	21.5	15
28/12/19	59.9	90	91	90	21	14
29/12/19	52.7	90	90	88	22	14
30/12/19	60.4	92	90	88	22	15





Date Umbilicus to			Lower limbs measurements in cm						
i	iliac crest in cm		Right			Left			
	Right	Left	Mid thigh	Mid calf	Mid Ankle	Mid thigh	Mid calf	Mid Ankle	
18/12	18	19	34	33.5	27	33	32	27	
19/12	19	19.5	33.5	33	27	32	32	26.5	
20/12	21	22	33	32	27	32	31	26.5	
21/12	21	22	47	32	27	46.5	31	26	
22/12	21	22	47	31	27	46.5	31	26	
23/12	21	21	46	27	27	45	26	26	
24/12	21	21	45	27	28	44	26	27	
25/12	21	20	41	26	26	43	26	26	
26/12	19	18	43	26	26	43	26	26	
27/12	19	18	42	26	25	42	25	25	
28/12	19	19	43	26	25.5	43	26	25.5	
29/12	16	17	42.5	25.5	25.5	42.5	25.5	25.5	
30/12	17	18	43	262	26	43	26	25.5	



DISCUSSION

As Ialodara Vvadhi is Vatapradhana Samprapti (Pathogenesis) Tridoshas. In the Agnimandva (Loss of appetite), Srotorodha (Blockage of channels), *Balakshava* (Weakness) pathogenesis going on to break that are following treatment were pathogenesis the adopted. From the date of admission 18th Dec. started with Pachak Vati in one TDS dose with Koshna Jala and given in Vyanoudana Kala. It helped to improve digestion and promoted to absorption of nutrients. It reduced aggravated Tridoshas and improved digestion by increasing peristaltic movement. On 2nd day, *Laghu Sutashekhar* 500mg was given for Udarshoola, Udardaha and Kandu.

Virechana is expected to remove vitiated *Pitta Dosha*^[12]. *Haritaki* has the property of regeneration of hepatocytes. It is *Anulomak* and helps in relieving of the bacterial over growth in the intestine and it reduces the conversion time of the urea into ammonia and reduces the chances of the hepatic encephalopathy.

From 19thto 21st, *Haritaki Churna* 5gm was given with 50ml*Koshna Dugdha* in *Abhakta Kala* as a *Nitya Virechana*, then he hadtotal 5 *Vegas*. Dose has been reduced to 3gm with 30ml*Koshna Dugdha*, was given on 22nd and 23rd because he suffered from more *Vegas*and faced to *Daurabalya*. Due to this dose, he undergone with 7 *Vegas*. On 24th and 25th, 5gm dose of *Churna* was given then he had 6-7 *Vegas*. On 26th-27th, 3gm dose was given, then he had 3-4 *Vegas*. On 28th-29th 5gm dose was given due to which he had 7 to 8 *Vegas*.

On 21st to 30th, combination of *Arogyavardhini Vati, Daruharidra, Sharpunkha Churna* (each 500mg) was given. It acts on liver and spleen^[13]. *Sharpunkha* and *Daruharidra* have *Tikshna, Ruksha Gunas* and *Ushna Viryatmaka, Katu Vipaki*^[14]. *Tikshna, Ushna Guna* enhances *Agni*. By its *Ushna, Tikshna* and *Ruksha Guna*, it removes *Strotosanga* and also acts on *Udaka* and also it helps to remove portal hypertension. Main content of

*Arogyavardhini Vati*is *Kutaki* which acts as *Pitta Virechaka* and shows action on *Yakrita*^[15,16]. This is also helpful in removing the obstruction of hepatobilliary channels and correcting by hyperbilirubinaemia. Cucurbitacin exhibited liver protective, anti-inflammatory activities. Kutkin glycosidal bitter principle of *Kutaki* exhibited hepatoprotetive activity in Carbon tetrachloride^[17]. In this study, subject had mild Hepatomegaly so *Sharpunkha* and *Arogyavardhini* used because they acts as *Yakrituttejaka*.

During 21st to 30th Avipattikar Churna used as Dahashamaka and Pitta Virechaka^[18].

Guduchi, Katuki, Nimba, Bhrigraja, Amalaki, Punarnava, Triphala, Daruharidra are the contents of Guduchyadi Churna.

They have *Tikta Pradhana* and *Kashaya Rasa Anubhandhi* with *Ushna Virya* and *Ruksha*, *Ushnathmak* properties, which shows *Kaphapittaghna* which is primary indication for *Udara* treatment. Due to its *Gunas*, it helps in absorption of extra peritoneal fluid, which plays an important role by *Kleda Shoshana*, *Agni-Dipana*, *Strotomukhvishodhana*, *Yakrita-uttejaka*. Also, this is helpful in other associated complaints of *Udara*.

Punarnava Churna has anti-inflammatory, anti-bacterial action and useful in inflammatory renal diseases as well as nephrotic syndrome in case of ascites resulting from early cirrhosis of liver and chronic peritonitis. It helps to increase the urine output and helps to remove oedema^[19].

Bhringraja is best tonic for liver. It works on Hepatitis and spleen enlargement. The herb contains Wedelolactone and diethyl Wedelolactone which showed a dose dependent effect against Carbon tetrachloride, d galactosamine or phalloidin induced cytotoxicity in primary cultured at hepatocytes and exhibited potent antihepatotoxic properties^[20]. The whole plant showed effects on liver cell regeneration and an immunoactive property was observed against surface antigens of the HBV.

Guduchi balances *Vata* and *Pitta*. 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 normalisation of altered liver functions (ALT, AST)^[21].

Daruharidra is hepatoprotective in nature and fights against liver toxicity.

On 22nd, *Shankh Vati* 250mg was given with *KoshnaJala* in *Vyanoudana Kala* as he was suffering from *Udaradhmana*.

During 23rd to 30th, *Kamdudha Rasa* 1gm was given in *Vyanoudana Kala* as he was suffering from *Udardaha*.

During 26thto 30th, *Hignavashataka Churna* 125mg was given with *Mudga Yusha* as *Muhurmuhu* for enhancement of *Agni*.

Pathyapathya

In Jalodara, Pathyapathya also plays avital role. Without diet restriction, there is no use of medicine. So, Godugdha, Mudhga Yusha were advised because he had Agnimandya^[22]. According to modern, in Ascites there is deficiency of Vitamins and nutritive values. Cow milk was given because it has greater values of nutrients and Vitamins which was need of patient. Salt and water were totally restricted which is considered as best solution. As salt and water increases abdominal fluid quantity by osmosis process.

By above treatment and *Pathyapathya* subject had shown significant improvement in weight, abdominal girth, measurement from Xiphisternum to umbilicus, Umbilicus to iliac crest and measure mental changes in lower limbs which is explained in supplementary 2.

CONCLUSION

In Udara Vyadhi, Tridoshas are involved. So, it is necessary to break down the pathogenesis. In contemporary science, only Diuretics and Paracentesis is mentioned. But recurrence is more so this case was managed by only Ayurvedic Medicines. As patient was having complaints of Balakshaya (weakness) along with Agnimandhya (loss of appetite) which was got to normal state by advising Dugdhapana (drinking of milk) with Deepana & Pachana Aushadhis.

To remove of accumulated fluid *Nitya Virechana* was given and it gives best result by decreasing weight, abdominal girth and in measurement of lower limbs by decreasing oedema. To break up the *Sanga* of all *Doshas* and retained fluid and separate them, *Virechana* is necessary. *Yakrita* is the *Mula Sthana* of *Rakta*. *Rakta Pitta* has *Ashraya* and *Ashrayi Sambhadha*, hence, *Virechana* is the best treatment for elimination of *Pitta Dosha*.



Figure 1: Abdominal Girth





Figure 3: Left Lateral View



Figure 4: Right Lateral View

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