

JALŌDARA (ASCITES) - A HISTORICAL REVIEW

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ABSTRACT

Jalōdara (Ascites) is one of the critical diseases known to ancients of remote antiquity. According to *Āyurvēda*, it is one among the eight *Udararōga* and proclaimed to be an incurable one. Ascites is nothing but accumulation of free non purulent fluid in the peritoneal cavity as per the modern concept. The origin and derivation of word "Ascites" comes from Greek word 'Askaos', which means a bag or bladder. *Jalōdara* is referred to non medical literatures like *Rgvēda*, *Atharvavēda*, *Agnipurāṇa* and *Garuḍapurāṇa* etc. This article carries medico historical references from ancient to modern literature.

Introduction

Jalōdara (Ascites) is one of the critical diseases and one among the eight *Udararōga* popularly known to the common people. According to *Āyurvēda* *Jalōdara* (Ascites) is accumulation of water in the abdominal cavity. *Jalōdara* considered as a disease, instead of a symptom or a sign of other diseases. It is of two types i.e. *svatantra* (independent or primary) and *paratantra* (secondary) that is due to some other disease. Among the six *kriyākāla* (stages), it corresponds to the fifth stage (manifestation stage) or the 6th stage (the stage of busting open). The *svatantra* or primary *Jalōdara* has been described as *Dakōdara*. *Caraka* has proclaimed it to be an incurable disease.⁷ *Suśruta* called all *Udararōga* as "*Mahāgada*" i.e. grave ailments and difficult to treat.⁸

According to the modern conception Ascites is sequel to some other disease or its complication. The term Ascites originated from the Greek word 'askos' means a bag or bladder, sometimes Ascites is applied to the fluid itself, no better name could be given to the fluid filled abdomen (medical etymology by O.H. Perry).

Ascites, which is the accumulation of excess fluid in the abdomen, is often among the first signs of decompositions in patients with chronic liver disease. Cirrhosis is the

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underlying cause of Ascites in at least 80% of patients, but other factors (e.g., heart failure, constrictive pericarditis, nephrotic syndrome, tuberculous peritonitis, peritoneal malignancy and pancreatic duct leak) must also be considered. Approximately 50% of patients with cirrhosis develop Ascites within 10 years. The development of Ascites in the setting of cirrhosis is an important landmark in the natural history of chronic liver disease, because approximately 50% of patients die within in years.³

Jalōdara referred in non medical literatures like *Ṛgvēda*, *Atharvavēda*, *Agnipuraṇa* and *Garuḍapuraṇa* etc.

Nomenclature

Assamese	: Jalodara, Udari
Bengali	: Jalodara
Dogra	: Jaladari, Jalodara
English	: Ascites
Gujarati	: Jalodara
Hindi	: <i>Jalōdara</i>
Kannada	: Jalodara, Oudu, Sobata
Malayalam	: Mahodaram
Marathi	: Jalodara
Oria	: Jalodara
Punjabi	: Jalodara
Tamil	: Peruvaieru, Mohodaram
Telugu	: Jalodaram

Vedic medicine

In Vedic age foundation of national medicine was laid down which was consolidated, after formulation of basic concepts in later period. *Āyurvēda* did not emerge out of a void or vacuum but on a very sound footing which was came into existence during Vedic period. The Vedic divine men had profound knowledge about diseases and drugs which was handed down from generation to generation. The word '*Āyurvēda*' given to medicine in India testifies its continuous link with Vedic tradition. It is further evident from the fact that a number of Vedic terms and remedies are found in classical *Āyurvēda* and practised even in modern times.

R̥gvēda (RV)

R̥gvēda is the earliest literary record of Indian culture and sacred collection of Vedic Sanskrit hymns dedicated to the gods with a fairly elaborate account of the condition of medicine that prevailed in early Vedic period.

Hymns in *R̥gvēda* speak about *Varuṇa* the Lord of cosmic order who controls the rhythmic movement of nature and incessant flow of rivers, who has been praised as the knower of hundreds and thousands of drugs, physician and the master of physicians and has been prayed to protect the mankind. *Jalōdara* is a disease infected by God *Varuṇa* (lord of waters). These hymns are offered to *Varuṇa*, who inflicts a person with this disease if he violates the moral order.⁵ (7.89.2 & 4)

Atharvavēda (AV)

Atharvavēda, contributed by two great sages *Atharvan* and *Aṅgirā*, which mainly deals with the daily life, health and sickness designated as *Bhaiṣajya* (medical) Veda. Diseases, drugs, treatments, preparations are numerous and the disease *Jalōdara* is also described in AV² (I.10; VI.22, 24, 96; VII.83). Atharvavedic hymn has prescribed in a form of rite to cure *Jalōdara*. (Kau 32.14-16)

Atharvavēda describes *Jalōdara* patient looks like quivering, inflated water bag when he walks and when he sits, his belly hangs and falls about like a vessel when it has been unbound and also feels thirsty though being surrounded by water.²

The treatment of *Jalōdara* described in AV (Ku.Sut.25.37), in a purely symbolic practice i.e.

- a. The patient is sprinkled with water over the head by means of twenty one tufts of *Darbha* (grass) together with reeds taken from the thatch of a house by the priest while reciting hymn (I.10).
- b. Water is drawn from a stream and sprinkled upon the patient while reciting hymn (IV.24).
- c. The priests while reciting hymn (VI.127) anoints the patient with the powder obtained from pulverizing a chip of *Palāśa* wood of the width of four fingers, dregs of ghee are poured upon the head of the patient.
- d. A hut is built at a point of land between two rivers that flow in to one another and the patient suffering from *Jalōdara* is washed there with bunches of grass.⁴

In another reference a consecrated drink as treatment is mentioned in *Atharvaveda* (6.96). The drink contains half water and half butter milk mixed with honey.¹

Agnipurāṇa

It prescribes diet & dietetics and advises the *Jalōdara* patients to eat *Vātya Balā* (*Sida cardifolia*) with thickened milk or *Vāstuka* with clarified butter, boiled *Śāli* rice and recipes made of wheat and barley, *Mudga* pulse (green gram), *Brahmarakṣā*, *Khadirasāra* (Catechu), *Nimba* (*Azardirecta indica*), *Dhātrī* (*Embllica officinalis*) and nutmeg (*Myristica fragrans*).⁹

Treatments for various diseases are mentioned in chapter 281. Preparation of pill composed of following drugs

1. *Karśikā* - *Terminalia belerica* - Combretaceae
2. Roots of *Pippalī* - *Piper longum* – Piperaceae.
3. *Pañcalavaṇa* (five salts) - *Saindhava*, *Sauvarcala*, *Viḍa*, *Sāmudra*, *Rōmaka*
4. *Pippalī* - *Piper longum* - Piperaceae
5. *Citraka* - *Plumbago zeylanica* -Plumbaginaceae
6. *Śuṅthī* - *Zingiber officinalis* - Zingiberaceae
7. *Triphalā* - *Āmalakī* - *Phyllanthus Emblica officinalis* - Euphorbiaceae
Vibhītakī - *Terminalia belerica* - Combretaceae
Harītakī - *Terminalia chebula* - Combretaceae
8. *Trivṛt* - *Operculina turpethum* - Convolvulaceae
9. *Vacā* - *Acorus calamus* -Aaraceae
10. Two sorts of alkali
11. *Ṣaḍbalā* - (6 varieties of *Balā* i.e. *sida* species)
12. *Dantī* - *Baliospermum montanum* - Euphorbiaceae
13. *Svarṇakṣīrī* - *Argemone mexicana* - Euphorbiaceae
14. *Viṣāṇikā* - *Pistacia intergerrima* - Anacardiaceae

Each weighing 10 gm is also mentioned to administer to those suffering with *Jalōdara*.

Garuḍapurāṇa

Garuḍapurāṇa has elaborately mentioned about *Udararōga*. The *Prāṇa Vāyu* (nerve-force of the respiratory centre) brings about the derangement of the *Apāna Vāyu*

(pneumogastric nerve force), and keeps them incarcerated in the union of the skin and flesh, thus giving rise to a distended condition of the abdomen called *Udararōga* (Ascites).

Udararōga is of eight types, one from each *dōṣa*, and one from their combination, *Plihōdara*, *Yakṛdudara*, *Chidrōdara* and *Dakōdara* it is mentioned that, all diseases are produced by *Mandāgni* (poor digestive activity) specially the *Udararōga* i.e. enlargement of abdomen. The deranged condition of *dōṣa* (characteristics of ascites) obstructs the channels of sweat and other body fluids, excite *Prāṇa*, *Apāna Vāyu* and *Agni* causes *Udararōga*. Distention of the abdomen with gas, inability to walk, weakness, poor digestion, inactivity, edema and debility of the extremities etc. are symptoms in *Udararōga*. Different types of *Udararōga* such as, the *Vātaja*, *Pittaja*, *Kaphaja*, *Plihōdara* (Dropsy of the enlarged spleen) and *Sannipātika* (due to the concerted action of the deranged *Vāyu*, *Pitta* and *Kapha*), and *Dakōdara* (Ascites), each preceding one should be regarded as more difficult to cure than the one immediately following it as the order of enumeration. If not attended with the symptoms of obstructed flow, is incurable after a fortnight from the date of their attack.¹⁰

Etiology

Caraka has described the etiology of *Jalōdara* separately that if a man who is lean, thin or emaciated with low digestive power consumes excessive water and his digestive fire will be destroyed. *Vāyu* located in *Klōma* (pancreas or esophagus) and channels being blocked, *Kapha* is associated with watery substance takes possession of the abdominal cavity and causes *Jalōdara*.⁷

Suśruta has given the etiology of *Udararōga* as “If a man with weak digestive fire takes unwholesome food, dry or stale food or transgresses the rules in *Snēha* (oleation), enema etc, his *Mala* become increase and find way into abdomen or alimentary track and causes *Udararōga*, in which the abdomen looks protuberant like bushes”.⁸ According to *Suśruta* when drinking of cold water by the patient who has been administered therapies like oleation, oil enema, emesis, purgation or decoction enema the channels of fluid in the body get obstructed by oily material and leads to *Dakōdara*. In this condition, the abdomen is greatly enlarged with the umbilicus protrusion, softness on palpation and on percussion produces sound and movement like a leather bag filled with water.⁸

Pathogenesis

According to *Caraka*, when *Agni* or the digestive fire becomes vitiated, the excretions increase beyond proportions and gives rise to different diseases. Especially in *Udararōga* (enlargement of abdomen) the digestive activity is poor and the patient takes various unwholesome food, his undigested food and excretion or metabolites accumulate. This accumulated *Mala* (excretion) vitiates *Prāṇa Vāyu*, *Apāna Vāyu* and *Agni*, which blocks the *Srōtas* lying above and below, finds way between the skin and muscle produces swelling in the abdomen or flanks and ultimately results *Udararōga*.⁷

Caraka has estimated the watery contents of the body as 10 *añjali*. It is excreted out of the body in the form of urine, stool and sweat. When the watery channels are blocked, water accumulates in the peritoneal cavity. All the *Udararōga* culminate in *Jalōdara* in the long run. All *Udararōga* have got some common signs and symptoms like loss of appetite, sweetish taste of the mouth during the prodromal stage (early stage).

Fatty or heavy food takes a long time to be digested and difficult to ascertain whether the food has been digested well or not and the man cannot eat food to his satisfaction. There is slight oedema over hands and feet, exhausted strength, breathlessness on slight exertion. Accumulation of *Mala* results in increase of abdomen size. The abdomen gets tight even on taking light food. Appearance of lines atrophaceia and disappearance of wrinkles over the abdomen will occur.

Caraka has described two conditions in *Jalōdara* one *Picchōtpatti* (appearance of gelatinous substance) and *Ajātōdaka avasthā* (condition of absence of free fluid. During the stage of *Picchōtpatti* the abdomen looks globular, heavy and wettish. There are resonant sounds on percussion, softness on palpation with no wrinkles. On percussion or pressure the swelling proceeds towards the umbilicus.⁷

The stage of *Ajātōdaka* (condition of absence of free fluid) is found during the prodromal stage of *Jalōdara* in which the abdomen is slightly edematous, reddish and resonant sound is felt on percussion and the veins are prominent, which together form into caput medusa. *Vāyu* (wind) distending the naval and disappears after impelling the urge. There is pain over the heart, umbilicus, inguinal region, waist and rectum. The wind passes out with a harsh sound, the appetite is impaired, urine is scanty, the faeces hard.

Suśruta has gone one step ahead and described the pathogenesis of *Udararōga* - "As water oozes out of a new earthen vessel, so as the chime of the substance of the absorbed food juice goes from the place of the digestion of food in a vitiated form and increase by the force of *Vāyu*, slowly underneath the skin, thickens it and produces *Udararōga*".⁸

According to modern medicine many factors contribute to Ascites formation in chronic liver injury. Sinusoidal hypertension expands plasma volume and increases portal inflow. Initially, albumin traverses the porous sinusoidal endothelium along with fluid, but as fibrosis progresses, only protein free fluid can escape the sinusoid, from where it enters hepatic lymphatics. Continued accumulation of lymph overcomes the capacity for lymphatic drainage, and the excess fluid "weeps" from the liver into the peritoneal cavity. Hypoalbuminemia worsens with advancing liver dysfunction and decreases oncotic pressure. Increased sodium reabsorption by the kidneys and splanchnic arteriolar vasodilatation increases portal flow. Finally, despite the increasing accumulation of Ascites, the capacity of the peritoneum to absorb fluid is fixed.³

Treatment

General

In *Jalōdara* vitiated *Vāta* is the main causative factor and due to much accumulation of *Mala* or metabolites and the obstruction of the channels, repeated purgation has been advised to be the best.

Jalōdara patient should be given first castor oil with milk or cow's milk or urine of cow for a month or two. No water should be given during this period and all other food but drink only the urine of a she buffalo and cow's milk. The milk here, according to *Dalhāna* on the authority of *Jējjāta*, should be buffalo's milk. But, according to *Vāgbhaṭa* and *Śivadāsa sēna*, the commentator of *Cakradatta*, cow's milk should be used or live upon the milk of camel alone forgoing the use of rice and water and submit to a course of *Pippalī* for one month.

According to *Caraka & Suśruta* butter milk with *Trikaṭu* is very much advisable. *Pippalī* with milk for one month or oil of the *Nikumbha* or *Dantī* (*Baliospermum Montana*) with *Saindhava lavaṇa* and *Ajamōdā* (*Apivmgra veolens*) powder should be administered to the patient. Salt restricted diet should be given till the disappearance of fluid from the abdomen.

Single drugs

1. Plenty of coconut water.
2. *Punarnavā* (pigweed fresh juice to be given twice a day).
3. *Pippalī* powder with milk or honey.

Simple preparation

1. *Śilājīta* 1g with 3g *Triphalā* twice a day.
2. *Triphalā* and *Trikaṭu siddha kṣāra*.

Compound preparation

1. *Paṭōlādyā Cūrṇa*
2. *Pippalī Vardhamāna Yōga*
3. *Ārōgyavardhinī Yaṭī*
4. *Nārāyaṇa Cūrṇa*
5. *Hapuṣādya Cūrṇa*
6. *Snuhikṣīra Ghṛta*

Specific surgical treatment

Jalōdara patient should be first anointed with medicated oils, possessed of *Vāyu* as subduing virtues and fomented with hot water. Persons assisting the patient should be asked to hold him firmly by his armpits. The surgeon must give an incision on the patient with a surgical instrument known as the *Vrihimukha* on the left side of the abdomen below the umbilicus (breadth of the thumb in depth) at dividing line of hairs on the abdomen. Simultaneously, a metal tube or a bird's quill (open at both ends) should be introduced through the passage of the puncture to allow the morbid fluids accumulated in the abdomen to ooze out. And then having removed the tube or the quill, the puncture should be lubricated with oil and *Saindhava* salt and bandaged in the manner described for bandaging the ulcers.

The entire quantity of the morbid fluid should not be allowed to ooze out in a single day to avoid consequences like thirst, fever, dyspnoea etc., if not it might lead to a fresh accumulation of matter in the abdomen. It should be gradually tapped at intervals of three, four, five, six to even sixteen days according to patient's constitution. After the complete out flow of the fluid the abdomen should be firmly tied with a piece of flannel, silk clothe or leather to prevent its flatulent distention.⁸

Post Operative care

After surgery diet is restricted for nine months. The use of direct water is forbidden during these nine months. For first six months the patient should be given the food only with milk or with the soup of *Jāṅgala māṁsa* (meat of the wild animals), gruel without fat and salt. The diet for the next three months should consist of meals taken with milk diluted and boiled with an equal quantity of water or with the soup of wild animal flesh seasoned with the juice of citric acid fruits. During the next three months light and wholesome food is to be given. This rule observed for a year brings a good result. It is said that for the patients of abdominal disorder, who are emaciated due to subjection to various remedial measures and wanted in respect of all *Dhātu* milk is wholesome diet as nectar for the gods.

Diet advised

Udararōga is caused due to vitiation of three *dōṣa*. Hence in all types measures alleviating three *dōṣa* should be adopted. When the belly is filled up with *dōṣa*, *Agni* gets diminished so appetizers and light food such as red *Śālī* rice, barley, green gram, wild animals and birds, milk, urine, *āsava*, *ariṣṭa*, (honey) *madhu*, *sīdhu* and *surā* are advisable. Gruel or boiled rice should be given with vegetable or meat soup having slight sour, and pungent ingredients and cooked along with *Pañcamūla*.⁶

Buttermilk is whole some which is not very thick, is sweet and without fat. One suffering from *Jalōdara* should take the buttermilk added with *Trikaṭu*. Butter milk is like nectar for those suffering from heaviness, anorexia & poor digestion.⁷

Diet forbidden

A patient afflicted with this disease should avoid use of heavy or emollient food, and those that produce a state of extreme dryness in the body system, aquatic and marshy meat and vegetables, flour preparations, sesame seeds, and physical exercise, traveling on foot, day sleep and journey on vehicles and refrain from bathing and using effusions Besides, he should avoid hot, salt, sour, burning, heavy cereals and excessive water intake.

Vāgbhaṭa and *Kāśyapa* contraindicated *Laśuna* (garlic) for the diseases of abdomen because who are prone to suffer from indigestion use of garlic produces complications. Sugar cane juice is contraindicated by only *Kāśyapa*.¹¹

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सारांश

जलोदर (एसार्ईटिस) - एक ऐतिहासिक समीक्षा

पी.के.जे.पी. सुभक्था एवं अला नारायण

जलोदर (एसार्ईटिस) प्राचीनों द्वारा अत्यन्त पुरातन काल से ज्ञात एक संकटमय व्याधि है। आयुर्वेद के अनुसार यह आठ उदररोगों में से एक है एवं एक असाध्य व्याधि के रूप में घोषित है। आधुनिक विचार के आधार पर जलोदर उदर्याकला गुहा में स्वतन्त्र पूयरहित स्राव के जमाव के अतिरिक्त कुछ भी नहीं है। “एसार्ईटिस” शब्द का उद्भव एवं व्युत्पत्ति ग्रीक शब्द “एस्कॉस” से हुआ है, जिसका अर्थ एक थैला या मूत्राशय है। जलोदर अचिकित्सिकीय साहित्य जैसे ऋग्वेद, अथर्ववेद, अग्निपुराण एवं गरुडपुराण आदि में उल्लिखित है। इस लेख में प्राचीन एवं आधुनिक साहित्य से चिकित्सिकीय ऐतिहासिक सन्दर्भ लिये गये हैं।