

The Role of Ayurveda vs. Western Medicine in the Treatment of Hepatitis C (by Ellen Shearer, C.A.S.)

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Introduction

Hepatitis C is a recently discovered disease. Until 1989 medical science was unaware that it even existed. There was no name for it and people that had it and actually had symptoms, either went undiagnosed or the liver problems were labeled as other diseases. Before the disease was identified doctors were seeing patients with a form of hepatitis that was labeled "non A or non B" hepatitis. Once they discovered that it was a different and unique form of hepatitis, they named it hepatitis C. It has been called the silent killer. Doctors quickly realized that this "new" form of hepatitis was particularly deadly because patients often had little or no symptoms other than flu like aches and pains, fatigue and occasionally, elevated liver enzymes (ALT and AST) until their liver failed due to cirrhosis or cancer. Although this was particularly troubling, they soon realized that because the disease had only recently been discovered, that infected people had unknowingly been donating blood and that the disease had been transmitted through blood transfusions. The U.S. Centers for Disease Control estimates that over the coming decade the death toll from hepatitis C will triple, surpassing that of AIDS. Four times as many Americans are infected with the hepatitis C virus as with HIV.

Hepatitis C is caused by many viruses, which are extremely small germs that can mutate and multiply after invading a host. It invades through the blood or other bodily fluids causing infection and inflammation of the liver, which leads to complications or death. Liver enzyme tests sometimes reveal high levels of bilirubin, which causes jaundice, severe itching and yellow urine and can lead to cirrhosis causing coma or death. There is a higher risk of liver cancer with Hepatitis C infection. It is responsible for more than one-third of all liver transplants. [1] The disease is not casually spread. It can be transmitted through the transfer of infected blood either by sharing intravenous drug paraphernalia or hospital workers accidentally being stuck with a needle used on an infected patient, an actual blood transfusion, straws used to snort cocaine, tattooing and other sources of potential blood to blood contact. What is particularly frightening about the disease is that those who have the disease seldom realize they are sick when they first become infected. They may remain symptom free for decades and pass the virus through straws, needles or shared toothbrushes and razors. [2] HCV is not a fragile organism. No one knows how long it can survive in microscopic traces of dried blood; after 3 months, it is still active and infectious. Fortunately, person-to-person infection is rare even through sex but what is even more worrisome is that for 10 percent of people with the disease, the route of infection cannot be determined. [3]

Most people don't think about their liver. They are unaware of the functions taking place within their body by this important organ. When a doctor tells them there is a problem with their liver they are

usually shocked. The liver can slowly start to fail for a variety of reasons such as viruses, bacteria, cirrhosis, or cancer with little or no outward symptoms.

Function of the Liver

Unlike other organs in the body the liver has many functions. The stomach digests, the heart beats, the brain thinks but the liver performs multiple duties. Unlike other organs it can actually "regenerate" itself by expanding to fill the empty space if part of it is damaged or removed! One exception to this would be if it were permanently scarred with cirrhosis. A person can live without a gallbladder or spleen, a kidney or lung but they cannot live without a liver. Everything that enters the body through any method must pass through the liver. Besides being a very efficient filter, the liver plays a role in many other areas of the body. It helps to build muscles by metabolizing proteins. It regulates energy by storing glucose in the form of glycogen for use when needed. It maintains hormonal balance by regulating hormonal production. It helps to process vitamins and minerals as well as any ingested drugs. [4]

The liver being the most active gland of the body secretes about 600-800ml of bile daily. The metabolic functions of the liver include metabolism of fats, proteins, minerals, and carbohydrates. It also has secretory and excretory functions. [5] In Western medicine the liver functions as the gatekeeper and regulator of nutritional health and provides a purifying system as well. It weighs about 3 pounds and contains four sections called lobes. Within each lobe, lobules contain liver cells and passageways for blood circulation, called sinusoids. It is within the lobules that the specialized liver cells transform chemical substances into nutrients the body can use or neutralizes potential toxins to protect the body from damage. Because the liver plays a major role in the circulation and the composition of blood, its health has an impact on all body systems, from hormone regulation to thinking. [6]

Tests

Liver function tests are performed that determine the way the liver is performing. These are for AST, SGOT, ALT, GGTP, AP, bilirubin, and albumin. These letters are acronyms for enzymes - proteins inside of cells. AST for example stands for aspartate amino transferase. This enzyme used to be called serum glutamic oxalacetic transaminase (SGOT), hence the two names. ALT = amino alanine transferase, GGTP= gamma glutamyl transpeptidase, and AP= alkaline phosphatase. Different cells have different enzymes inside them, depending on the function of the cell. Liver cells happen to have lots of AST, ALT, and GGTP inside them. When cells die or are sick the enzymes leak out causing the blood level of these enzymes to rise, which is a way of determining if the cells in question are sick. [7]

Serum total bilirubin is increased in hepatocellular damage (infectious hepatitis, Liver disease, kidney disease, and malnutrition are the major causes of low albumin). A diseased liver produces insufficient albumin. [8] Additionally, if hepatitis is suspected then an HCV-RNA test will be run to test for evidence of HCV antibodies and if present then a PCR test will be run to test the viral load of HCV present in the blood.

Western Medical Treatment of Hepatitis C

There are currently two drugs on the market that are used to treat hepatitis C. These are interferon, which is supposed to boost immunity, and ribavirin, which attacks the virus. There are, unfortunately many side effects associated with the drugs including fever, aches, pains, flu-like symptoms, hair loss and severe depression just to name a few. These drugs are not effective against many of the genotypes associated with the virus. They are effective in only 10-40% of all patients. These genotypes are mapped globally.

Genotype patterns

It is believed that the hepatitis C virus has evolved over a period of several thousand years. This would explain the current general global patterns of genotypes and subtypes:

1a - mostly found in North & South America; also common in Australia

1b - mostly found in Europe and Asia.

2a - is the most common genotype 2 in Japan and China.

2b - is the most common genotype 2 in the US and Northern Europe.

2c - the most common genotype 2 in Western and Southern Europe .

3a - highly prevalent in Australia (40% of cases) and South Asia .

4a - highly prevalent in Egypt

4c - highly prevalent in Central Africa

5a - highly prevalent only in South Africa

6a - restricted to Hong Kong, Macau and Vietnam

7a and 7b - common in Thailand

8a, 8b & 9a - prevalent in Vietnam

10a & 11a - found in Indonesia

Genotype and treatment

Current scientific belief is that factors such as duration of a person's HCV infection, their HCV viral load, age, grade of liver inflammation or stage of fibrosis may play an important role in determining response to interferon treatment. Recent studies have suggested that a person's HCV subtype (or subtypes) may influence their possible response to interferon, or interferon-ribavirin combination treatment. [9] Genotype 1b appears to be at the greatest risk for increased risk of development of hepatocellular carcinoma (HCC) in cirrhosis.

Western Holistic Treatment of Hepatitis

Several herbs and supplements are used to treat hepatitis currently. These are as follows:

Milk Thistle

Picorhiza

Licorice

Vit C

Vit E

Phyllanthus

Burdock

Danbdelion

Reishi mushrooms

Turmeric

Schizandra

Alpha Lipoic Acid

N-Acetylcysteine

Selenium

Zinc [10]

Ayurveda^[1] and the Liver

In Ayurvedic medicine the liver is the seat of ranjaka pitta along with the spleen. The definition of Pitta literally means bile, which is ranjaka pitta. Ranjaka pitta gives color to all the tissues. The Sanskrit word ?ranjaka? means to give color. Ranjaka pitta is responsible for erythropoiesis, the creation of red blood cells in the bone marrow, which are mixed with rasa dhatu, the plasma. Thus, ranjaka pitta is responsible for giving color to the blood. [11]

The function of ranjaka pitta in the liver is the disintegration of hemoglobin, which produces heme and globin. From heme, bile is produced, and that bile is ranjaka pitta. Its' job is to give color to the urine, feces and sweat.

Ranjaka pitta in the stomach is intrinsic factor, which is responsible for production of blood in the bone marrow. Ranjaka pitta in the spleen kills bacteria and parasites as well as produces some white

blood cells (rasa dhatu), so its job is more protective.

There is a functional integrity between the liver, stomach, spleen, and bone marrow. If the function of the liver is affected the bone marrow will also be affected. If the function of the stomach is affected, it will affect the liver. In a way, the spleen is to filter the blood and to send unwanted heavy, old red blood cells to the liver; the liver destroys them and separates the hemoglobin from the blood. Then the liver utilizes the hemoglobin that is liberated for the production of bile salts, pigment and enzymes. Therefore, when the spleen is enlarged the liver may also be enlarged and vice versa. [12]

The Sanskrit word for liver is "yakrut". "Ya" means circulation and "krut" means action. Yakrut is an important seat of fire - the seat of anger, hate, envy, and jealousy. These emotions need to be processed and metabolized. These emotions want to come out but, if we suppress them, they accumulate in the tissues and lead to disease. Ayurveda does not separate emotions from the organs. We cannot separate body from mind and mind from consciousness. [13]

Disorders of ranjaka pitta include hepatitis, anemia, chronic fatigue syndrome, and mononucleosis. Excessive bile production or a blockage in the flow of bile usually indicates high pitta, which in turn affects the agni or enzyme activities responsible for absorption, digestion and metabolism. Pitta can be aggravated by many factors of diet and lifestyle. These would include alcohol abuse, eating red meat, eating too much spicy or oily, heavy foods, lack of sleep, too much direct exposure to the sun and smoking. When pitta becomes aggravated liver diseases can result such as hepatitis and cirrhosis. Although viral type hepatitis such as hepatitis C is not mentioned in the classic Ayurvedic texts, similar symptoms are described under "kaamala".

Ayurveda describes two basic types of kaamala (hepatitis or jaundice).

1. Shakhasrita is caused by the minimal aggravation of pitta and kapha, and is easily curable.
2. Kumbha kaamala results from very high pitta and is difficult to cure. It can become incurable if not attended to immediately.

Panaki and haleemaka are two other types of hepatitis or jaundice that are explained in Ayurvedic texts. Panaki is late stage kaamala. Haleemaka is an advanced stage of anemia that occurs when both the vata and pitta are out of balance. [14] [15] [16]

Pathogenesis

Due to the aggravation of pitta by excessive alcohol intake, too much heavy, oily, spicy food, etc. the liver can become diseased. When pitta is out of balance and disease begins in the liver this can result in disease of the blood, muscle tissue, and biliary system. The manifestation of this disease will be 'kaamala' or jaundice.

The symptoms of "kaamala include:

- Loss of appetite and taste
- Generalized weakness
- Yellowish discoloration of the eyes, nails, oral cavity, and urine
- Vague body pains
- Burning sensation
- Weakness in all sensory organs [17]

Once hepatitis is advanced and the immune system is highly comprised emaciation will be present as well. Ayurveda teaches us that hepatitis involves all systems in the body including musculoskeletal, cardiovascular, and the gastrointestinal system as well as the skin.

Symptoms of hepatitis such as generalized edema (shotha), excessive thirst (atitrishna), bloody stools (krishna varna mala mutra), vomiting blood (rakta yukta chardi), red eyes (rakta netra), dizziness (bhrama), drowsiness (tandra), total loss of appetite (teevra agni mandya), and hepatic coma (nashta sanjna) indicate that the liver disease is at an incurable stage, and the patient is believed to be terminally ill. [18]

Usually liver disease will present itself with certain signs and symptoms. These may include fatigue, jaundice, loss of appetite, mild fever, joint aches and pains, occasional nausea and or vomiting. Through the pulse you will feel many imbalances including but not limited to prana vata, vyana vata, apana vata, samana vata, sadhaka pitta, pachaka pitta, ranjaka pitta, rasa, rakta and medas dhata. The eyes may appear yellowish and burn which will show up as alochaka pitta in the pulse; the skin may have hives or rashes, which can show up as bhrajaka pitta in the pulse as well. The tongue will have a deep redness indicating the heat of rakta and ranjaka pitta. Palpating the abdomen may reveal a swelling or tenderness in the upper left quadrant where the liver resides. There will be other information available as to the type of lifestyle the person has lived, their constitution^{i [2]} and physical strength. Out of balance pitta, and poor agni play important roles in the symptoms of hepatitis and other liver disorders. In addition, low ojas is the essence of the immune system. Low ojas makes a person more vulnerable to immune system dysfunction or infections such as hepatitis.

According to Vaidya Ranjeet Nimbalkar, hepatic liver disease is caused by "vimargagamana", which is abnormal flow of constituents in other srotas resulting in abnormal accumulation of that constituent in the srota in which it is abnormally flowing. Also, it causes its deficiency in its own srotasa. In the case of kaamala there is vimargagamana of raktamala pitta into the raktavaha srota, which should be going to the annavaha srota and excreted through the purishavaha srota. Due to some abnormality of yakruta it flows into the rakta and then to all of the body. In the case of raktapitta, liquid part of various dhatus because of excessive heat of pitta, drains into rakta increasing its quantity. This is vimargagamana of uadaka of various dhatus in rakta, because of some functional abnormality of yakruta. Rasa and rakta, being liquid dhatus are more prone for vimargagamana. Also rasa and rakta dhatus are responsible for nourishment of all the other dhatus."

Ayurvedic Treatment of Hepatitis C

Any diet or lifestyle activity that aggravates pitta can be a contributor to hepatitis. These would include:

1. Alcohol abuse
2. Red meat
3. Spicy, oily, heavy foods
4. Lack of sleep
5. Too much sun exposure
6. Smoking

Treatment would be to balance pitta dosha and should be individually based for each person's imbalances. Herbs, meditation, diet and bodywork would all play an important role in the treatment. Diet should consist of the following:

1. sweet and bitter vegetables
2. sweet, ripe fruits
3. mung dahl, lentils
4. grains - oats, basmati rice, barley
5. dairy - butter, buttermilk, milk, cream
6. spices - coriander (fresh and dried), fennel, cardamom, dill, turmeric

Yoga postures for those strong enough to perform them should include vajraasana, shalabhasana, halasana, padahasthasana, savasana, abdomen lift and stomach lift which are helpful in liver disorders. These should be performed early in the morning or evening. Avoid hot showers or baths. Pranayama breathing is effective. Meditation and chanting mantras in a quiet place is important as well. Walks in nature or gazing at the moon are balancing for pitta as well.

The herbs that are important and effective for treating liver disorders are:

Bhumyamalaki
Bhringaraj
Turmeric

Guduchi
Haritaki
Kalmegha
Kutki
Musta
Pippali
Punarnava
Licorice

Panchakarma therapies important for liver ailments and excess pitta would include, poorva karma (pre-purification measures), abhyanga^{i[3]}, pinda sveda, virechana (using avipattikara churna or triphala churna) pizhichil, and yapana basti^{i[4]} (using licorice, guduchi, katuki and manjista with milk and honey). [19] After panchakarma subjects should follow the diet and lifestyle that will establish the balance of pitta. This would include avoidance of afternoon sleeping, exposure to hot sun, exertion, anxiety, alcohol abuse, smoking and irregular eating habits. Diet should be mainly fresh vegetarian food as outlined above.

Rasayana therapies after panchakarma should include pippali for fever fatigue, inflammation, liver and spleen enlargements. The dose would be 1 tablespoon twice a day. Also ashwagandha, sariva, jiraka, draksha would be given in the form of a churna for fatigue, immune enhancer and rejuvenator and to decrease the viral load. The dose would be 1 tablespoon twice a day. Lastly triphala at night would be given for immunodeficiency and chronic illness. This would be one tablespoon at night with warm water. [20]

Summary

Western medicine at present offers little in the way of treatment or cure of Hepatitis C. The drug treatments have many side effects and almost no effectiveness in eradicating the virus.

Western holistic medicine offers some positive therapies for protecting the liver and supporting the immune system.

Ayurveda offers a total approach to support and treatment of people with hepatitis. While no long term studies have been done in the treatment of hepatitis C and Ayurveda, the diet and lifestyle changes offer much in the way of balancing and enabling the immune system to fight off the virus. Additionally, Ayurveda emphasizes disease prevention as well as achieving a goal of total health. The historical information provided in the ancient texts about ayurvedic herbs and treatments describe how to protect, detoxify and improve the health of those with diseases of the liver.

[1] MEDLINEplus "New Drug Hope for Millions of Hepatitis C Victims"

[2] Cohen, Misha, Gish, Robert, MD "The Hepatitis C Help Book"(2000) p.1

[3] Buhner, Stephen, "Herbs for Hepatitis C and the Liver" (2000) p. 2

[4] Palmer, Melissa, MD, "Hepatitis Liver Disease" (2000) p. 13

[5] Kulkarni, P.H., et al. "Ayurved and Hepatic Disorders"(2001) p. 42

[6] Cohen, Misha, Gish, Robert "The Hepatitis C Help Book"(2000) p. 19

[7] Hepatitis Central: Lab Tests

[8] Hepatitis Central: Lab Tests

[9] Hepatitis Central: Genotypes Explained

[10] Buhner, Stephen, "Herbs for Hepatitis C and the Liver" (2000) p. 2-82

[11] Lad, Vasant, M.A.Sc., Textbook of Ayurveda Fundamental Principles (2002) p. 57

[12] Lad, Vasant, M.A.Sc., Textbook of Ayurveda Fundamental Principles (2002) p. 57-58

[13] Lad, Vasant, M.A.Sc., Textbook of Ayurveda Fundamental Principles (2002) p. 58

[14] Charaka Samhita: Nidanasthanam, chapter 1, stanzas 6-11. Ed. P.V. Sharma, Chaukambha Orientalia, Varanasi, India 1981

[15] Yogaratnakara: Vol I. Pradhamakanda verse 35. Chaukambha prakashan, Varanasi, 1989

[16] Sarangadhara Samhita, chapter 1 verse 1-3. Chaukambha Orientalia, Varanasi, India, 1989

[17] Mishra, Shri K. MD, "Ayurvedic Medicine" (2000) p. 8-18

[18] Susruta Samhita: Sutrasthanam. Motilal Banarasidas Publishers. New Delhi. 1983.

[19] Mishra, Shri K. MD, "Ayurvedic Medicine" (2000) p. 8-18

[20] Hepatitis C: Choices Appendix IV, Ayurvedic Medicine, Ayurvedic Herbs Used to Treat Liver Disorders p. 10-12

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