

AYURVEDIC MEDICINE

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Introduction

Ayurveda is a natural system of medicine that has been practiced in India for more than 5,000 years. It was developed by seers (rishis) through centuries of observation, experimentation, discussion, and *meditation*. The origins of Ayurvedic medicine are recorded in the Atharva Veda, one of the four Vedic scriptures.¹ For several thousand years, Ayurvedic teachings were passed down orally from teacher to student. The first summary of these teachings was put into writing around 1500 B.C. The main sources of knowledge are the three Vedic classics Charaka Samhita, Susruta Samhita, and Ashtanga Hridaya.²

Ayurveda is a Sanskrit word made up of two components, *ayush* meaning life, and *veda* meaning knowledge or science. Hence, Ayurveda is the “science of life.” The teachings of this ancient system of medicine are written in Sanskrit, the ancient language of India and Hinduism. It is based on Indian (Vedic) philosophy. Ayurveda was the first holistic system of diagnosis and treatment integrating nutrition, hygiene, rejuvenation, and herbal medicine. Ayurvedic medicine considers the human body to be in balance with nature. The body is believed to be a dynamic and resilient system that can cope with all stresses from its environment while maintaining the ability to heal itself.^{3,4}

The main objectives of Ayurveda are:

- to maintain and promote health by preventing physical, mental, and spiritual ailments
- to *cure* disease through natural medicine, diet, and a regulated lifestyle

Ayurveda tries to help us live a long and healthy life, achieve our fullest potential, and express our true inner nature on a daily basis.⁴ The Ayurvedic classic Charaka Samhita defines Ayurveda as, “the knowledge that indicates the appropriate and inappropriate, happy or sorrowful conditions of living, what is auspicious or inauspicious for longevity, as well as the measure of life itself.”⁵

Basic Concepts of Ayurveda

It will be helpful to understand a few important concepts and some Ayurvedic terminology before deciding whether you want to include Ayurveda in your *hepatitis C* treatment plan. The next few pages provide a brief overview of Ayurvedic concepts on which the diagnosis and treatment of all ailments are based.

Pancha-Maha-Bhoota Theory

According to Ayurvedic philosophy, the entire cosmos is made up of the energies of five elements: earth, water, fire, air, and ether (space). Even the human body and herbs are made up of these elements. Collectively, these elements are called *pancha-maha-bhootas* or material particles. The material particles and the anti-material particles (the spirit) form the cognitive aspect of a living being.

The predominance of a particular element(s) determines the characteristics of a thing, whether it is an animal, a person, or an herb. The medicinal properties of a drug or an herb are determined by the characteristics it exhibits. Similarly, depending upon the relative amounts of the elements, each of us exhibits a unique set of physical and mental characteristics. A disease state changes these characteristics. This change is the basis for the diagnosis and treatment of

disease. In prescribing a remedy, the doctor chooses a treatment with the opposite characteristics of the disease to counteract the *symptoms*.

Tri-Dosha Theory

According to Ayurvedic theory, there are three humors in the body called doshas. These determine the constitution of a person and also the life processes of growth and decay. The doshas are genetically determined. The three doshas are vata, pitta, and kapha. Each dosha is made up of the five fundamental elements. Each dosha is responsible for several body functions. When the doshas are healthy and balanced, this is the state of good health. Imbalances cause disease. Ayurveda recognizes that different foods, tastes, colors, and sounds affect the doshas in different ways. For example, very hot and pungent spices aggravate pitta. Cold, light foods such as salads calm it down. This ability to affect the doshas is the underlying basis for Ayurvedic practices and therapies.

VATA

Vata is composed of space and air. It is the subtle energy associated with all voluntary and involuntary movement in the human body. It governs breathing, blinking, muscle and tissue movement, and the heartbeat. It is also responsible for all urges. Creativity, flexibility, and the ability to initiate things are seen when vata is in balance. Indecision, restlessness, anxiety, and fear occur when vata is out of balance. Vata is the motivating force behind the other two humors. In modern medicine, the *physiological* role of vata is in the central and peripheral nervous systems.⁶⁻⁸ Vata has a tendency to expand indefinitely and to disturb the nervous activity or the vital forces in the body.

PITTA

Pitta is composed of fire and water. It is responsible for all digestive and metabolic activities. It governs body temperature, complexion, visual perception, hunger, and thirst. In a balanced state, pitta promotes intelligence, understanding, and courage. Out of balance, pitta produces insomnia, burning sensations, *inflammation*, infection, anger, and hatred. Pitta is the humor involved in liver disorders.⁶⁻⁸ Pitta has a tendency to become more liquid and to weaken the digestive and biochemical processes in the body.

KAPHA

Kapha is composed of water and earth. It provides the strength and stability for holding body tissues together. Kapha is the watery aspect of the body. It provides lubricants at the various points of friction in the body. In balance, kapha is responsible for wisdom, patience, and memory. Out of balance, kapha causes looseness of the limbs, *lethargy*, greed, and generalized sluggishness or *hypoactivity*. This dosha maintains body resistance to disease.⁶⁻⁸ Kapha has a tendency to thicken and obstruct the passages of the body and damage the process of lubrication.

Sapta-Dhatu Theory

Ayurvedic theory states the human body is composed of seven tissues called dhatus.

- plasma and *interstitial* fluids (*rasa*)
- blood (*rakta*)
- muscle (*mamsa*)
- fat or adipose tissue (*medas*)
- bone (*asthi*)
- bone marrow (*majja*)
- reproductive tissue (*sukra*)

Kapha is specifically responsible for plasma, muscle, fat, marrow, and semen. Pitta creates blood. Vata creates bone. Diseases of the humors are usually reflected in the tissues they govern. When out of balance, the humors can enter any

tissue and cause disease.⁶⁻⁸

MALAS

The quantities and qualities of the three excreta from the body, sweat (sweda), feces (mala), and urine (mutra), and other body waste products play an important role in the diagnosis and treatment of disease. The Sanskrit word for these waste products is malas.⁶⁻⁸

TRIPOD

Tripod includes the doshas, dhatus, and malas. They maintain health when they are in equilibrium and produce disease when they are not.

SROTAS

The human body has numerous channels to allow the flow of energy, nutrients, and waste products. These channels are called srotas. Some of the srotas such as the alimentary canal (the digestive channel that runs from the mouth to the anus) are very large. Some are small such as arteries and veins. Others are very minute such as the capillaries, nerve terminals, and the lymphatics. Some srotas carry nutritional materials to the tissues of the body. Other srotas carry waste materials out of the body. The three doshas are present in every part of the body and move through every srota. Blockage or improper flow within the srotas produces ailments. The physical channels are similar to the different systems of western medicine such as the digestive, respiratory, and *cardiovascular* systems. Diseases are classified according to the systems they involve.⁹

AGNI AND AAMA

Poor functioning of the digestive system leads to many diseases. The digestive fire or agni controls the activities of digestion. According to Ayurveda, digestion is the cornerstone of good health. Good digestion nourishes the body. Eating the correct foods makes a big difference in your well-being. Agni helps the body produce secretions and generates the metabolic processes necessary to create energy, and maintain and repair the body.¹⁰ Agni is also part of the *immune system* since its heat destroys harmful organisms and toxins. There are 13 agnis. The activity of agni varies throughout the day. A natural ebb and flow of your digestive fire is necessary for good digestion and immune function, and resistance to disease.¹¹

The opposite of this process is aama. Aama is defined as imperfectly metabolized food or drugs. In other words, an aama is a toxin that needs to be eliminated from the body. Aama is usually generated in the body because of weak digestive fire or jatharagni.¹² It is also believed that aama is produced by out of balance doshas. Aama is mixed up with the tissues and causes disease by clogging the channels. Out of balance pitta, dosha, and poor agni play important roles in the symptoms of liver disorders.

OJAS

Ojas is the essential energy of the immune system. It is a unique concept of Ayurveda that embodies a subtle essence of all the tissues in the body. In other words, ojas is the glue that cements the body, mind, and spirit together, integrating them into a functioning individual. Proper agni is required for proper production of ojas. Ojas decreases with age. Low ojas levels cause chronic degenerative and immunological diseases.¹³ In western medicine, ojas would be similar to *immunoglobulins* and other *immunomodulators* like *cytokines*. Abnormalities of ojas lead to decreased *immunity*, making a person more vulnerable to infections including hepatitis.

PRAKRUTI AND GUNAS

The proportion of the humors varies from person to person. One humor is usually predominant and leaves its mark on a person's appearance and disposition. Based on the predominant humor, every person is born with a unique mind-body constitution called prakruti. Gunas denote a person's mental make up and are of three types: satva (perfect), rajas (semi-balanced), and tamas (unbalanced). A person's prakruti is determined at the time of conception. Every person has specific physical, mental, and emotional characteristics. These characteristics are called a person's constitution. Prakruti must be considered in determining natural healing approaches and recommendations for daily living.¹⁴

Ayurvedic Definition of Health

Ayurveda defines health as, “the equilibrium of the three biological humors (doshas), the seven body tissues (dhatus), proper digestion, and a state of pleasure or happiness of the soul, senses, and the mind.”¹⁵ This definition dates back to 1500 B.C. and is described in Sushruta Samhita, the surgical compendium of Ayurveda.

A balance among the three doshas is necessary for health. Together, the three doshas govern all metabolic activities. When their actions in our mind-body constitution are balanced, we experience psychological and physical wellness. When they go slightly out of balance, we may feel uneasy. When they are more obviously unbalanced, symptoms of sickness can be observed and experienced.^{16,17}

Pathogenesis of Disease

Ayurveda asserts that each person is unique, made up of specific characteristics that are his or her own. This means that in order to protect or preserve your health, you need to follow a diet and lifestyle that create balance with your constitution or internal environment. Such a lifestyle keeps the humors at normal levels.

Aggravating factors such as diet, climate, seasons, emotions, and lifestyle can make the humors go out of balance. Imbalance weakens the digestive fire and increases the production of toxins. The toxins along with the out of balance humor(s) block the channels and disrupt the energy and nutrition flow to that particular tissue. The result is that the tissue involved in the process becomes diseased.¹⁷ This happens in six *stages*: accumulation, aggravation, overflow, relocation, manifestation, and diversification.¹⁸

Classification of Diseases

Various diseases are produced by imbalances of specific humors in specific tissues. Diseases are classified as vata, pitta, or kapha disorders, and combinations of these three. Based on the predominant humor, 80 vata, 40 pitta, and 20 kapha disorders have been identified. There is further classification of the disorders based on the physiological systems or srotas involved. Most diseases of the organ systems are further sub-classified and are named after the predominant humor, tissue, or organ involved in the disease process.¹⁹

Diagnosis of Disease

Diagnosis in Ayurveda is done in eight parts. Disease is diagnosed by taking a detailed history of the causative factors, *prodromal symptoms*, *cardinal signs* and symptoms, and the aggravating and relieving factors.²⁰ The affected humor and tissue are identified for treatment.

Various methods are used to help acquire information during an assessment. These methods are very similar to other medical disciplines and include questioning, observation, *palpation*, direct perception, and *inference*. Techniques such as taking the pulse, observing the tongue and eyes, noting physical symptoms, and examinations of urine and stool are employed during an assessment.²¹ The pulse is one of the important tools in diagnosing the constitution of an individual and the humors involved in a disease. In some cases, the pulse can identify the stage of the disease. Pulse diagnosis gets more accurate as the Ayurvedic practitioner gains experience.²²

Prognosis of Diseases

Ayurveda is not a *cure* for all ailments and all stages of disease. Diseases are classified based on their *prognosis*.

- Easily curable: recent onset, one humor involved
 - example - digestive disorders
- Difficult to cure: chronic, one or two humors involved
 - example - most skin disorders

- Chronic with maintenance therapy: two or more humors involved, or chronic and metabolic diseases
 - examples - diabetes and hepatitis C
- Incurable: all three humors involved with associated complications
 - example - cancer
- Terminally ill: the chance of continued life is very bleak

If the first two stages of a disease are not treated properly, they can progress to become a chronic disease with maintenance therapy or could end up as incurable.²³

Principles of Ayurvedic Treatment

The first goal of Ayurveda is health promotion and disease prevention. The second goal is to treat physical, mental, and spiritual illness. Ayurveda teaches that separating mind and spirit from the body creates physical imbalance, the first step in the disease process. It naturally follows that reintegration of mind, spirit, and body is the first step toward healing.

The goal of treatment for any disease is to restore the balance of the humors to reestablish a person's original constitution. This is achieved by adjusting the factors responsible for causing disease. A combination of herbs, bodywork, and lifestyle changes are suggested for the treatment of a disease or ailment. Dietary advice is also an important component of Ayurvedic treatment. The practitioner will suggest a specific diet that helps eliminate or slow the progression of disease.

Finally, yoga and meditation are advised because they are integral to Ayurvedic treatment. Treatment recommendations are based on a person's constitution, current health imbalances, and the time of year.^{15,24}

The humors are balanced and toxins are eliminated from the body through cleansing therapies known as panchakarma. Panchakarma is another hallmark of Ayurvedic treatment. Panchakarma is comprised of five parts: emesis, purgation, cleansing enemas, retention enemas, and cleansing nasal medication.²

After panchakarma, rasayana (rejuvenation therapy) is recommended. This helps enhance immune function and also helps the person have a longer, healthier life.

Ayurvedic Medicine and Hepatitis C

The liver is called yakrit in Ayurveda. Pitta is the predominant humor of the liver. Most liver disorders are aggravated conditions of pitta. 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*.

Diet and lifestyle activities that aggravate pitta include:

- alcohol abuse
- red meat
- spicy, oily, heavy foods
- lack of sleep
- too much direct exposure to the sun
- smoking

Aggravation of the pitta causes such liver diseases as *fatty liver*, *cirrhosis*, and hepatitis. All types of viral hepatitis are of relatively recent discovery, so there is obviously no mention of them in the classic Ayurvedic texts. Nevertheless, one can find similar symptoms described under *kaamala*.^{26, 27}

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

- *Shakhasrita* is caused by the minimal aggravation of pitta and kapha, and is easily curable.
- *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.²⁶

Pathogenesis

Excessive intake of alcohol, and hot, spicy, sour, or contaminated food or water aggravate pitta. When pitta is out of balance, the liver causes disease in the blood, muscle tissue, and biliary system. This manifests as *kaamala* or jaundice. It is believed that an anemic and/or immunocompromised person is more prone to this ailment.

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

In extreme cases, *emaciation* (extreme thinness) is also seen. All these symptoms signify the involvement of the immune system in infectious hepatitis. Ayurveda teaches that hepatitis involves the *gastrointestinal* system, cardiovascular system, musculoskeletal system, and the skin.²⁶⁻²⁸

Symptoms such as generalized *edema* (*shotha*), excessive thirst (*atirishna*), 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.²⁹

Diagnosis of Liver Disorders and Hepatitis C

A diagnosis of liver disease is suggested by signs and symptoms such as loss of appetite, *fatigue*, jaundice, occasional vomiting, and mild fever. The determination of the type of liver disease is made according to the severity of the symptoms. The magnitude of pitta aggravation is diagnosed through pulse reading, observing the eyes and tongue, and palpating the abdomen. Important parts of the examination include assessments of the person's constitution, physical strength, and mental state. Other information is also gathered such as a person's lifestyle and whether he or she lives or has lived on the coast, far inland, or in the mountains.^{29, 30}

Treatment of Liver Disorders and Hepatitis C

Ayurveda promotes a specific treatment for every ailment. The objective of any treatments is to return balance to the affected dosha. Reestablishing a person's constitution is always an important component of therapy. The method used to achieve constitutional balance could be elimination, palliation, or both.

The treatment of liver disorders usually involves a combination of herbs, body work, dietary advice, lifestyle changes, yoga, and meditation. It is important to follow a specific diet and curtail excessive activities. Depending on the person's physical state, treatment begins with a mild laxative, which is either limited to the start of treatment or taken daily. If the person is unable to tolerate the laxative, it is stopped and treatment proceeds to the next step.

After cleansing, oral medications are given two or three times daily. These medications can be herbal concoctions, powders, pills, fermented syrups, and/or herbs processed in clarified butter (ghee). The dosage, form, and combination of medications are selected depending upon the patient's constitution, stage of disease, and physical condition. Only an experienced Ayurvedic healthcare provider can make appropriate medication recommendations. Though special emphasis is placed on agni in all instances, it is given more importance when treating liver disorders.^{26-28, 31}

Medicinal plants (botanicals) have been used for the management of liver diseases by Ayurvedic and other traditional healers for thousands of years. Numerous plants and herbal formulations containing several botanicals are reported to have liver protective (*hepatoprotective*) properties. Nearly 150 chemicals from 101 different plants have been claimed to have liver protecting activity.²³ Most studies on hepatoprotective plants are carried out using chemically induced liver damage in rodents. Several plants have been reported as hepatoprotective in animals by investigators from India during the last decade.²³

For descriptions of the herbs used to treat liver disorders in Ayurvedic medicine, see *Appendix II, Ayurvedic Medicine*. The appendix also contains sample panchakarma and rasayana *protocols* for patients with liver disease. However, recall that Ayurvedic therapy is individualized according to each person's unique characteristics. If you are interested in pursuing Ayurvedic therapy for hepatitis C, you are urged to consult a qualified Ayurvedic practitioner.

Ayurvedic Dietary Guidelines for Liver Disorders

Pitta is the primary humor involved in liver disorders. It influences digestion, metabolism, and biological transformations in the body. Therefore, it is important to follow a diet and lifestyle that reestablishes the balance of pitta.

In general, Ayurvedic medicine promotes a vegetarian diet for liver disorders. Bitter, sweet, and astringent tastes are favored. It is recommended that you consume starchy foods such as vegetables, grains, and beans. Salads are also good.

Excesses of salty, sour, and/or spicy food items are harmful. Avoid processed and fast foods as they tend to have excessive salt and sour tastes. You are urged to reduce your consumption of oil, butter, and fats. Avoid doughnuts, fried foods, pickles, yogurt, sour cream, cheese, egg yolks, coffee, alcohol, and fermented foods. Try to avoid vinegar in salad dressings by using lemon juice. A detailed list of recommended food items for people with liver disorders is given in Table 1.

Table 1. Ayurvedic Dietary Recommendations by Food Group

Food Group	Favor	Reduce or Avoid
Vegetables - sweet and bitter vegetables	asparagus, broccoli, Brussels sprouts, cabbage, cauliflower, celery, cucumbers, green beans, green sweet peppers, leafy green vegetables, whole mung beans	beets, carrots, eggplant, garlic, hot peppers, mushrooms, okra, onions, radishes, parsley, peas, potatoes, sprouts, squash, spinach, sweet potatoes, tomatoes, tofu, zucchini, other soy products
Fruits - all fruits should be sweet and ripe	apples, avocados, cherries, coconut, figs, dark grapes, mangoes, melons, oranges, pears, pineapples, plums, prunes, raisins	apricots, bananas, berries, sour cherries, cranberries, grapefruit, papayas, peaches, persimmons, green grapes*, oranges*, pineapples*, plums* *unless they are sweet and ripe
Grains	barley, oats, wheat, white rice (preferably basmati rice)	brown rice, corn, millet, rye
Dairy	butter, buttermilk, egg whites, ice cream, milk	cheese, egg yolks, sour cream, yogurt

HERBS AND SPICES

Spices should generally be avoided as they aggravate pitta. In small amounts, cardamom, cilantro (green coriander), coriander seed, dill, fennel, mint, saffron, and turmeric are good for protecting the digestive fire and helping remove blockages.²⁸

Lifestyle, Yoga, and Meditation

Your lifestyle is as important as your diet in preserving health. Our changing lifestyles have been a major cause of many ailments. If you have a liver disorder, you should avoid sleeping in the afternoon, exposure to hot sun, exertion, anxiety, alcohol abuse, smoking, eating at irregular intervals and times, and staying up late at night.

YOGA

The literal translation for yoga is “union.” Yoga is an excellent way to take care of both your body and your mind. Yoga helps improve your energy level and immune function, calms mood swings, and helps alleviate the “brain fog” that some HCV-infected people experience.

A yoga posture or asana is a dynamic position in which the person is perfectly poised between activity and inactivity. A corresponding mental balance exists between movement and stillness. In yoga, each posture reflects a mental attitude. Yoga strengthens the elimination system and helps detoxify the body. A few stimulating postures help disperse stagnation and congestion, and get energy flowing again to strengthen the digestive system and liver function.³²

Vajraasana, shalabhasana, halasana, padahastasana, savasana, abdomen lift, and stomach lift are some of the yoga postures that are very helpful in liver disorders.³² Yoga postures cause a squeezing action on a specific organ or gland resulting in the stimulation of that body part. Slow, deep breathing during yoga practice increases the oxygen and prana (life

force) supply to the target organ or gland. Focusing attention on the target organ or gland brings the mind into play and greatly increases the circulation and prana supply to the organ or gland.

It is best to practice yoga in the early morning or early evening. However, yoga can be practiced at any time. You should not eat right before practicing yoga. However, it is a good idea to eat something about thirty minutes after finishing your yoga session. Wait at least one hour after getting out of bed before doing yoga because you will be too stiff. Avoid taking a hot shower or bath immediately after yoga because it draws blood away from the internal organs and glands. A shower that is just warm will not counteract the benefits of yoga. It is important to drink plenty of water after yoga practice. The water will help flush the toxins released by the body during yoga.

Yoga is advised only for individuals who can withstand mild exercise and whose liver function is not compromised. If you are interested in adding yoga to your hepatitis C treatment *protocol*, you should first talk it over with your primary care practitioner to be certain it is safe for you. If your healthcare provider gives permission to proceed, we urge you to look for a well-trained, experienced yoga instructor. Be sure to tell your instructor that you have hepatitis C, and let him or her know if you have any other medical conditions. *Appendix II, Ayurvedic Medicine* has descriptions of some yoga postures that are frequently recommended for people with liver disorders. This is provided for your information only. We strongly recommend you do not begin yoga practice unless you have discussed it first with your primary care provider.

Pranayama is a systematic breathing exercise that helps increase blood supply and oxygen to the affected part of liver and helps liver regeneration.³² There is no restriction for this exercise unless you are very weak and/or suffer from fluctuations in blood pressure. Pranayama provides relaxation and relieves anxiety. There are various methods for pranayama, which consists of inhalation, retention, and exhalation.

A simple method for performing pranayama is to close the right nostril using the right thumb and close the left nostril using the right little and ring finger. Breathe in through the left nostril while closing the right nostril. Hold the breath as long as you can tolerate. Exhale through the right nostril thus completing one cycle. Next, breathe in through the right nostril and breathe out through the left nostril. Repeat this process ten to twelve times.

MEDITATION

Meditation is an important part of yogic practice. It has various stages. The first stage is dharana, meaning concentration. It is accomplished by sitting in a quiet place, closing your eyes, and chanting mantras. Focus your mind on an inner object, look at the tip of your nose, or focus on a picture of your choice. Continue this process until you are able to focus your mind. You try to concentrate by bringing your mind to the desired object.

The second stage of meditation is dhyana, which means contemplation. During this stage, you attempt to advance to a deeper stage of meditation. In this stage, you increase your concentration for a long period through practice.

The third stage of meditation is only for very advanced practitioners. It is known as samadhi. This form of meditation has the ability to control vital functions such as the heartbeat, breathing, etc. This is beyond the scope of the majority of yogic practitioners.

BENEFITS OF YOGA AND MEDITATION

Yoga and meditation are used in Ayurveda to promote health and well-being. Research suggests yoga practice may decrease symptoms such as anxiety, *depression*, and pain. Yoga and meditation have been reported to increase physical endurance, fitness, mental well-being, and quality of life.

Yoga and meditation may help people with hepatitis C overcome physical stress and fatigue. They may also help ease anxieties and tensions during treatment.

Research Data on the Efficacy of Herbs Used in the Ayurvedic Treatment of Liver Disorders and Hepatitis C

Despite tremendous advances in allopathic medicine, there are no effective hepatoprotective medicines. Plant-derived drugs (botanicals) play a vital role in the management of liver diseases in several non-western medical disciplines including Ayurveda, traditional Chinese medicine, and naturopathy. Numerous plants and polyherbal formulations claim to have hepatoprotective activities.²³

The hepatoprotective effects of individual herbs or herb combinations are tested using experimental animals. The animals are given chemicals known to be toxic to the liver along with the substance being tested. Animals given substances that are hepatoprotective show less liver injury than animals given the toxic chemicals alone. However, if a substance is not hepatoprotective, the level of injury is the same regardless of the addition of the test substance.^{20, 22, 27} In most studies of polyherbal formulas, marginal to moderate levels of hepatoprotective effects were observed.

The *antiviral* activities of only a few traditional botanicals have been tested in experimental animals. This is primarily because animal models for hepatitis C have only recently been developed.

ANDROGRAPHIC PANICULATA (KALAMEGH)

A. paniculata belongs to the plant family Acanthaceae and is also known as chirayata. Preparations containing *Andrographic paniculata* only and formulas containing this plant product have been described as being potent hepatoprotectants.²⁴

Administration of *A. paniculata* has been shown to protect the activity of several important enzymes in the liver (superoxide dismutase, catalase, *glutathione* peroxidase, and *glutathione* reductase). It has also been shown to protect liver *glutathione*. (See *Chapter 14, Naturopathic Medicine* for information about the role of *glutathione* in the liver.) These findings support the *antioxidant* and *hepatoprotective* effects of *A. paniculata*.²⁵

CURCUMA LONGA (HARIDRA)⁴

C. longa is commonly known as turmeric. It has a long tradition of use in both Chinese and Ayurvedic medicine. The anti-inflammatory and hepatoprotective characteristics of turmeric and its constituents have been widely researched.³³⁻³⁶

Reasons for Using Ayurvedic Medicine and Who May Benefit

Ayurvedic medicine emphasizes disease prevention and health promotion. Periodic cleansing of the system, and a review of lifestyle practices and diet are the most important parts of treatment.

Ayurvedic treatments support liver function and have some antiviral properties. The use of antiviral, time-tested hepatoprotective herbs and cleansing provide additional benefit to a person with hepatitis C.

Newly diagnosed patients with normal liver function and only moderately elevated *liver enzymes* may derive great benefit from Ayurvedic treatment. Non-alcoholics and those in younger age groups who are otherwise healthy respond well to the Ayurvedic approach. Because the mind and body are interconnected, people with a positive attitude toward Ayurveda benefit more from this approach than those who are skeptical.

Anecdotal Story of Treatment Success with Ayurvedic Medicine

A 54-year-old male presented to our clinic for evaluation. He was an alcoholic and a diabetic on oral diabetes medicine. He was diagnosed with hepatitis C in July 1999. He was being evaluated for painful swelling in the abdomen, legs, and feet. On physical exam, an inflamed left lobe of the liver was felt which was associated with mild tenderness. *Ultrasound* revealed a moderately enlarged liver. Laboratory tests showed a moderate increase in liver enzymes, but were otherwise normal. *Liver biopsy* showed *grade II* inflammation and *stage II fibrosis*. The man was treated with interferon plus *ribavirin* for more than two months, but he did not respond to treatment. Liver enzyme levels did not drop significantly and other liver blood tests were unchanged.

In our clinic, the patient's hepatitis C infection and associated changes in liver biochemistry were treated as an excess of pitta humor. However, because this patient had edema and abdominal discomfort, the involvement of kapha humor was also considered. After analyzing the man's physical constitution, it was decided that he was a vata prakruti person.

The following treatment plan was designed in three stages for five, one, and 45 days, respectively. The selection of herbs for this patient was based on the assessment of his unique condition.

- Elimination of toxins with panchakola choornam in a powder formula
- Elimination of aggravated pitta through purgation, after preparation of the patient with avipatti choornam in a powder formula. This was repeated every two weeks as long as the patient could tolerate it.
- Rejuvenation of the liver with herbs and diet with Piper longum in a powder formula, and in a graded dose called vardhamana pippali rasayana.

A fat-free diet with softly cooked old rice, porridge, non-citrus fruits, sugar cane juice, boiled vegetables, lentils, and freshly made buttermilk was advised for the patient. The patient was also advised to avoid non-vegetarian foods including fish, eggs, and ice cream. The patient was told to avoid cold drinks and sleeping for long periods of time during the day to prevent aggravating the humors.

At the end of 56 days, the patient experienced reduced symptoms. His abdomen became soft and non-tender. Ultrasound revealed the liver was of normal size. His alkaline phosphatase (a liver enzyme), which had been high, returned to normal. The patient was advised to continue the rejuvenating herbs. His *viral load* could not be measured because of financial constraints.

Reasons for Not Using Ayurvedic Medicine

People with *acute hepatitis C* or *chronic hepatitis C* with multiple complications and a severely cirrhotic liver may not benefit from Ayurvedic medicine. Those who cannot tolerate bitter medicines and/or who have reservations about Ayurvedic medicine are also unlikely to benefit. *Ascites* (an accumulation of fluid in the abdomen) is an incurable condition according to Ayurveda. People presenting with ascites cannot be helped by Ayurvedic medicine, nor can those who are highly debilitated.

Anecdotal Story of Treatment Failure with Ayurvedic Medicine

A 70-year-old male came to our clinic with mild jaundice, elevated liver enzymes, ascites, loss of appetite, *shortness of breath*, and fatigue. He had been diagnosed with HCV five years earlier when he developed jaundice after a blood transfusion during abdominal surgery. His liver blood tests were consistently abnormal. *Serum bilirubin* remained between 1.5-3.5mg/dL (a significant elevation above normal). He had no major symptoms and was able to carry out his normal activities. He had been treated with rest and polyunsaturated fatty acids for the first two years of his illness, perhaps due to lack of awareness of other treatments. Later, his viral load was tested and he was put on interferon plus ribavirin. He completed his drug therapy but did not improve. A year later, he developed ascites. This is when he approached an Ayurvedic doctor for help.

Given this man's presenting symptoms, particularly his ascites, the Ayurvedic treatment options were limited. Detoxification and cleansing procedures, which are mandatory in Ayurveda, could not be used in this patient because of his poor health and nutrition. A symptomatic treatment was planned and he was put on concoctions of liver protecting herbs such as *Tinospora cordifolia*, *Picorrizha curroa*, *Vitis vinifera*, and *Piper nigrum*, and others. Mild laxatives such as avipatti choornam were given in small doses, and a pitta-pacifying diet and lifestyle were recommended. Initially, his appetite improved and his serum bilirubin returned to normal. His other liver blood tests remained abnormal. His *shortness of breath* came down from class three to class one.

His abdomen became soft and he was able to pass normal stools. Ultrasound showed cirrhosis and ascitic fluid in abdomen. Viral load testing was not repeated, as the patient could not afford it.

Though the patient is continuing treatment after more than six months, there has been no significant improvement in his liver health. This is not unexpected because of this patient's cirrhosis and ascites. According to Ayurveda, the onset of ascites indicates a poor *prognosis*. Age, time, and complications could also have worked against this patient.

Future Research Possibilities: Prevention and Treatment

Chronic hepatitis C presents in a number of different ways. The liver damage is due to both the direct effect of the virus and the inflammatory changes created by activation of the immune system. The effectiveness and potential liver toxicity of botanicals (herbs and other plant-derived supplements) used to treat chronic hepatitis have not been adequately studied. Research needs to continue on a large scale. Multi-center trials are needed to determine the role of botanicals in the prevention and treatment of hepatitis. We also need studies to determine the best dosage forms for botanicals. Finally, research is needed on the use of the total plant, rather than just what is believed to be the active ingredient(s).³⁷ Double-blind, randomized, controlled studies, the gold standard of *clinical* research, should be the ultimate goal of all future research.

Summary

Hepatitis C poses unique challenges for both patients and healthcare providers. Ayurveda, the holistic Indian system of medicine, provides a ray of hope. It emphasizes prevention of disease and promotion of health. There is a great deal of historical information about the drugs and plants used in Ayurveda. We have descriptions of how these treatments work to improve the health of people with liver disorders. Ayurvedic texts describe how treatments protect and detoxify the liver. To validate this traditional knowledge, Ayurveda is undergoing scientific inquiry to establish its efficacy in the treatment of liver disorders.

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