



Nonalcoholic fatty liver disease (NAFLD) is a clinicopathological term that encompasses a disease spectrum ranging from triglycerides and other fat accumulations in hepatocytes (hepatic steatosis) to steatohepatitis with inflammation, fibrosis, and cirrhosis. It is believed that NAFLD is the cause of many chronic conditions including type II diabetes, cardiovascular and atherosclerosis which is the leading cause of death in the US, brain and neurologic problem such as stroke and Parkinson's. NAFLD is the biggest health concern now affecting 20% (32 millions) of Americans.

Recent studies support a "two-hit" model to explain the progression of NAFLD. The "first hit" constitutes the deposition of triglycerides in the cytoplasm of the hepatocyte. The disease does not progress unless additional cellular events occur (the "second hit") that promote inflammation, cell death, and fibrosis, which are the histologic hallmarks of nonalcoholic steatohepatitis (NASH).

1) The First Hit: Hepatic Steatosis or Fatty Liver

Hepatic Steatosis, or fatty liver is characterized by excess fat especially triglycerides built up in liver cells. The liver is one of the major organs to synthesize triglycerides as the body's energy supply and cholesterol which function for bile, Vitamin D, hormones production and cell membrane support. Its synthesis is under feedback regulation through activation and deactivation of the sterol receptor element binding protein-1c (SREBP-1c). The abnormally increased activation of this protein causes over production of cellular lipids resulting in accumulation of excessive fat in the liver. Research has shown that malnutrition, especially a deficiency of choline and a high fructose diet with a high degree of sweetness such as high fructose corn syrup found in our processed food upregulate SREBP-1c activation and is believed to be the major cause of fatty liver. In TCM, such a condition is a liver Yin deficiency with false Liver heat. Treatment at this stage requires Brown and LC Balancer to nurture Liver Yin to eliminate the false heat and help the liver to resume its normal metabolic function including the normal feedback control of SREBP-1c in fat synthesis to reverse the fatty liver condition. The use of Brown and LC Balancer also helps clean out the accumulated excessive lipids in the liver. Treatment with 3-6 weeks of Brown and LC Balancer is required. A diet that is rich in choline and low in sweetness is highly recommended to assist the reversal of the condition and prevent future development of the condition. If the patient is craving a sweet diet, the Weisslim is recommended which help normalize their eating habit and eliminate their cravings.

2) The Second Hit: Non-alcoholic Steatohepatitis (HASH)

Fatty liver or Hepatic Steatosis is a silent condition. Patients usually have no symptoms. However, when combined with other events (the second hit), it will further develop to steatohepatitis, inflammation of the liver leading to liver damage and scarring. The second hit is the increased pro-inflammatory cytokines production, which can be caused by stress induced blood flow reduction and/or bacteria endotoxins coming from the guts. Stress induced blood flow reduction to the liver can cause increased reactive oxygen species (ROS) with free radicals which can cause fatty acid to become aldehydes and lipids to be peroxidized. Such hazardous chemicals can injure liver cells, triggering an inflammatory response with pro-inflammatory cytokines production leading to steatohepatitis. Pro-inflammatory cytokines production can also be triggered by high amounts of bacteria endotoxins coming from the intestine when it exceeds the capability that the liver can handle in patients with leaky guts or small intestine pathogenic microbes infection or bacteria overgrowth. Symptoms of steatohepatitis include fatigue, weight loss, nausea, loss of appetite, pain in the upper right abdomen, burning or stabbing pain on the skin, spider veins and insomnia. Severe liver heat toxin can cause genital inflammation, formication and Skin Crawling. In TCM, such a condition is Liver Yin deficiency with real liver heat and toxins. Treatment for this stage requires Brown and LC Balancer to nurture Liver Yin to increase the blood flow to the liver to control the ROS generation, increase the production of the glutathione and repair liver damage. Levera is also required to clear liver inflammation by removing the pro-inflammatory cytokines in the liver (Liver Heat Toxin). Patients can experience symptom improvement with 1 week of treatment. 3-6 weeks of treatment is required for significant improvement with sustained results. Antioxidants will also help the repair process. Other treatments for leaky guts and small intestinal bacteria overgrowth are also required if such conditions are involved.

3) Anxiety Attack, Obsessive and Compulsive Disorders

Liver inflammation can trigger Kupffer cells to produce chemokines which can cause inflammatory responses in the brain, a liver heat ascending to the brain in TCM. Patients can feel a hit coming out of their abdomen and attack their heart and brain followed with psychotic related symptoms including anxiety attacks, obsessive behavior and/or compulsive thoughts, or uncontrollable urges. Treatment for such liver heat related condition requires Hepavin to remove liver heat and Brown / LC Balancer to nurture the liver. Patients can experience symptom improvement with 1 week of treatment. 3-6 weeks of treatment is required for significant improvement with sustained results.

4) Focal Seizure, Numbness, Muscle Cramps

Chemokines can trigger brain inflammatory responses causing abnormal brain activity. A brain heat caused by liver heat. Symptoms include a wave-like sensation, feeling hot, burning and pressure inside the brain, numbness or tingling, twitching, burning crawling sensation, muscle cramps, jerking of a limb, restless leg, temporary inability to speak, migraines, and depression. Treatment for such brain heat condition requires Platinum to remove brain heat, Hepavin to remove liver heat and Brown / LC Balancer to nurture the liver. Patients can experience symptom improvement with 3 days of treatment. 2-3 months of treatment is recommended to have significant improvement with sustained results.

5) Liver Fibrosis and Cirrhosis

Liver inflammation can activate Hepatic stellate cells which, upon activation, produces a wide array of cytokines to enhance the proliferation of liver cells and promote its regeneration including the secretion of collagen to the extra cellular matrix. Such fibrotic collagen forms scars which should be degenerated when the regeneration process finishes. However, if the collagen formation is more than its decomposition, the net result is liver fibrosis with more than normal amounts of collagen fiber deposits in the extra-cellular spaces causing livers cells to lose blood infusion and to be hardened. Patients with liver fibrosis may not have any symptoms. However, hardening of the liver can cause portal vein hypertension resulting in ascites and stomach and esophageal varices with symptoms of gastrointestinal bleeding. It can also cause enlargement of the spleen which destroys platelets and other blood cells causing symptom of bruises and a difficulty in heal injuries. Treatment requires the Brown, LC Balancer and Cirrhonin to nurture the liver and help speed up the decomposition of the fibrotic tissues. Patients should have symptom improvement with 2 weeks of treatment. 6 weeks to 3 months of treatment may be required for significant improvement with sustained results. If patients also have symptoms related to liver inflammation, Levera is also required.

In the stage of liver fibrosis, the liver cells and general liver structure are still intact. However, when it progresses to cirrhosis, the liver's fundamental structure is deformed and the framework begins to collapse with the liver cells replaced by the fibrotic tissue. Patients may experience symptoms of fatigue, poor appetite, weight loss, or nausea. As liver function worsens, symptoms may include debilitating fatigue, loss of appetite, weight loss or sudden weight gain, bruises, legs swelling (edema), fluid buildup in the abdomen (ascites), fluid retention and swelling in ankles or legs, itchy skin, or stabbing or burning pain on skin, yellow color in the skin or eyes (jaundice), easy bruising and abnormal bleeding, spider veins, and pale or clay-colored stools, confusion, disorientation, personality changes, blood in the stool and fever. Treatment requires Cirrhonin to dissolve the scarring with Brown, LC Balancer and Levera. Patients should experience symptom improvement in 2 weeks. If improvement plateaus, Gold Formula with Bitter and Qi Booster may also be required to assist the liver to break down the fibrotic tissue that causes liver hardening and clean the cell debris in the spleen and lymph nodes to assist liver damage repair.

Brown: 50mL, 2 times a day, or 3 capsules, 3 times a day

LC Balancer: 1 teaspoon (5mL) 3 times a day; or 2-3 capsules, 3 times a day

Levera: 3 capsules, 3 times a day

Hepavin: 2 capsules, 3 times a day

Platinum: 2 capsules, 2 times a day

Cirrhonin; 2 capsules, 3 times a day

Gold: 50mL, 2 times a day; or 3 capsules, 3 times a day

Qi Booster: 50mL, 2 times a day; or 2 capsules, 3 times a day

Bitter: 50mL, 2 times a day; or 2 capsules, 3 times a day