

The Natural Pharmacy Newsletter

Wellspring Custom Pharmacy

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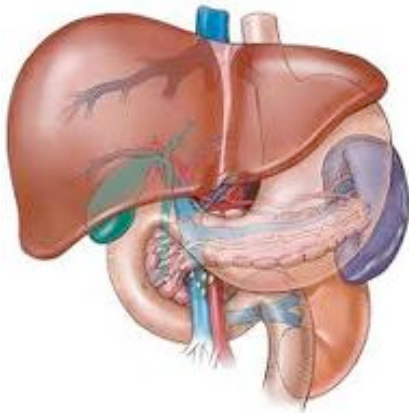
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In The News

Non-Alcoholic Fatty Liver

The liver is a vital organ performing such functions as detoxification, synthesizing proteins, glucose, glycogen, triglycerides, cholesterol, and coagulation factors. It also stores vitamins A, D, and B12 as well as minerals such as iron and copper. It produces bile which is necessary to emulsify fats as part of the digestive process. Bile also aids in ridding the body of toxic particles that are too large to be disposed of by the urine.

Nonalcoholic fatty liver (NAFL) is a condition where people who drink little or no alcohol accumulate fat in the liver. NAFL often causes no signs and symptoms and sometimes no complications. Unfortunately, NAFL can cause inflammation and scarring and in very severe cases, liver failure. NAFL has a strong association with obesity and insulin resistance and often goes unnoticed until routine blood work notes elevated liver enzymes.



Data suggests that as many as one-third of all American adults have NAFL. Results of several large studies indicate that 45 percent of Hispanics, 33 percent of whites, and 24 percent of blacks have NAFL. The high percentage of Hispanics is due to the higher incidence of obesity and insulin resistance. Men (42%) have a greater incidence of NAFL than women (24%). In diabetics, one study concluded that 69.5% had NAFL and this figure increased to 74.6% among those over age 60. NAFL is also quite common in children. Of over 62,000 children aged 2-19, 8.1% had NAFL.

Symptoms of NAFL can include: malaise, fatigue, discomfort in the right upper quadrant, diffuse abdominal discomfort, enlarged liver, and coexisting symptoms of metabolic syndrome. Metabolic syndrome is the convergence of several medical conditions including obesity, insulin resistance, high blood pressure, diabetes or pre-diabetes, hypertension and high lipids. Medications can also contribute to NAFL. They include amiodarone, antiviral drugs, aspirin, steroids, methotrexate, tamoxifen, and tetracycline.

Although there is no proven treatment there are indications that fat in the liver can be reduced by:

- Gradual and sustained weight loss
- Exercise and healthy dietary changes
- Tight control of blood glucose

Since the liver plays such an important role in

detoxifying the body, toxin exposure can not be avoided. This toxin exposure can also cause of NAFL. Supplements can help support the liver and aid in phase 1 and phase 2 liver detoxification. Glycine, taurine, and glutamine are used as phase 2 conjugating agents and can be of benefit as supplements to patients with toxic overload. MSM and betaine (trimethylglycine) aid in methylation, another detoxification pathway.

Calcium D-glutarate can assist the glucuronidation pathway and detoxify substances such as sex hormones. Glutathione acts as a powerful scavenger of free radicals and can be increased by adding such supplements as N-acetyl cysteine (NAC) and alpha lipoic acid. Further, silymarin found in Milk Thistle protects against glutathione depletion and increases liver glutathione levels. It has also been shown to stimulate the production of bile and help improve the parameters of fatty liver. Artichoke has a similar function to Milk Thistle in that it stimulates bile flow. It also assists in the excretion of toxins.

Non-alcoholic liver is a prevalent but, many times, unrecognized threat to health. It is associated with many conditions that are detrimental to good health. As with most other health conditions, a healthy diet and regular exercise can help prevent NAFL. Supporting the liver using amino acids, targeted nutritional supplements, and detoxifying agents can ensure that the liver continues to fulfill its essential role.

Sunlight Can Influence the Breakdown of Medicines in the Body

A new study by the Swedish medical university Karolinska Institute shows that the body's ability to break down medications may correlate directly with the amount of vitamin D obtained from sunlight. 70,000 analyses from patients using the anti-rejection drugs tacrolimus and sirolimus underwent regular monitoring of levels of the drugs in their blood. Samples were taken during the winter months and compared to samples obtained during the late

summer months. The results show that levels of these drugs in the blood vary throughout the year and closely reflect the level of vitamin D in the body. Making vitamin D from sunlight decreased blood levels of the tested drugs more during late summer than winter. Thus it would appear that vitamin D decreased blood levels of these drugs.



This reduction in blood levels is believed to arise from vitamin D activation of the liver's detoxification system by increasing the amount of an enzyme called CYP3A4. CYP3A4 is responsible for breaking down, not only tacrolimus and sirolimus, but also a variety of other drugs and may therefore affect other medication blood levels as well.

This mechanism may play a major role in the treatment of patients as the study shows for the first time that seasonal levels of sunlight may affect sensitivity to individual drugs. This study may also raise other questions such as what affect supplemental vitamin D may have on medication metabolism and does vitamin D play an important role in the detoxification of environmental toxins.

Just Say Thanks!

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Brad

2291 West Fourth Street Mansfield, OH 44906

(419)756-2559 www.wellstore.com