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REPORT

Protecting against the lethal effects of chronic inflammation

People suffering from chronic disease often have elevated levels of C-reactive protein in their blood. C-reactive protein indicates an inflammatory process is going on in the body, but does not identify the specific pro-inflammatory cytokine that may be the underlying cause.

Testing for pro-inflammatory cytokines has been prohibitively expensive because there has been so little demand for it. The Life Extension Foundation has spent more than a year establishing a relationship with the largest blood-testing laboratory in the United States to offer an inflammatory cytokine profile at an affordable price. Here is the new cytokine panel along with the optimal anti-inflammatory ranges:

Pro-inflammatory Cytokine	Anti-Inflammatory Range
Tumor necrosis factor alpha (TNF-a)	No more than 25 pg/mL
Interleukin-1 beta (IL-1b)	No more than 150 pg/mL
Interleukin-6 (IL-6)	No more than 29 pg/mL
Interleukin-8 (IL-8)	No more than 80 pg/mL

The importance of cytokine testing for those suffering from chronic illness

There are many chronic disease states that can now be managed by the proper utilization of the Inflammatory Cytokine Blood Panel. If you are elderly, or suffer from any serious disorder, these cytokine tests can enable your doctor to prescribe therapies that specifically target the inflammatory cytokine responsible for your poor state of health.

From a practical standpoint, if you suffer from congestive heart failure, and your levels of TNF-a remain persistently high, you may ask your doctor to prescribe the drug Enbrel®, which specifically counteracts the destructive effects of TNF-a.

If you suffer from cancer and your levels of IL-6 remain persistently high, you may consider high dose DHEA or asking your doctor to prescribe a bisphosphonate drug (such as Zometa® that protects against bone destruction that releases excess IL-6 into the body). Those with prostate, certain types of breast cancer, and other hormonally driven cancer should consider other IL-6 lowering therapies (such as high dose DHA fish oil extract) in lieu of DHEA.

Some cancer and certain patients display elevated levels of IL-8, which induces cancer cells to express growth factors that fuel their propagation. In hepatitis C, elevated IL-8 signals interferon drug resistance. An IL-8 suppressing therapy will soon be available to Americans (it is already used in Japan).

Those with systemic inflammatory disease often manifest high levels of IL-1b. If diet, the anti-inflammatory supplements (fish oil, borage oil, DHEA, etc.) and cytokine-suppressing drugs (pentoxifylline, 400 mg twice a day) fail to suppress this destructive cytokine, then ask your doctor to prescribe the drug Arava (leflunomide), starting at the low dose of 10 mg a day.

Methods of lowering elevated C-reactive protein

Those who are in relative good health, but have elevated C-reactive protein, can try to lower it using a variety of diet modifications, supplements and/or drugs. Supplements such as vitamin E, borage oil, fish oil, DHEA, vitamin K and nettle leaf extract can lower C-reactive protein. Diets low in arachidonic acid, omega-6 fatty acids, saturated fats, high-glycemic and overcooked food can suppress inflammatory factors in the body.

If diet and supplements fail, drugs such as ibuprofen, aspirin, pentoxifylline or one of the statins (such as Pravachol®) should be taken. If the modified diet, nutrients and/or drugs lower C-reactive protein to below 1.3 (mg/L) of blood, then this is an indication that the underlying inflammatory fire has been extinguished. (Make sure to always ask for the high-sensitivity C-reactive protein blood test).

Individuals with chronic disease sometimes find it difficult to suppress C-reactive protein. In these cases, it is important to identify the specific inflammatory cytokines that are responsible for the destructive inflammatory processes that is causing or contributing to the underlying disease state. This enables a custom tailored program to be implemented, and its success measured by suppressing the pro-inflammatory cytokine culprits. For instance, if TNF-a levels are elevated and natural approaches fail to lower it, the prescription drug Enbrel should be considered.

Low-cost cytokine testing

Few physicians have recognized the critical importance of suppressing pro-inflammatory cytokines in the treatment of degenerative disease. As a result, there has been little demand for them and commercial blood laboratories have been charging exorbitant prices (around $645.00) for the four most important inflammatory cytokine tests.

The Life Extension Buyers Club has negotiated a favorable pricing arrangement with the largest blood-testing laboratory in America to offer the complete inflammatory cytokine panel for only $435.00. The cost of individual cytokine tests to Life Extension members is then discounted as follows:

Tumor Necrosis Factor alpha (TNF-a)	**$99.00**
Interleukin-6 (IL-6)	**$99.00**
Interleukin 1(b) (IL-1b)	**$99.00**
Interleukin-8 (IL-8)	**$99.00**

If you add up the members price for all four of these tests, the cost comes out to $376.00. If all four of these tests are ordered at once, the member's price is reduced to $295.00 a 54% savings compared to commercial lab charges.
You can expect to read many new articles about pro-inflammatory cytokines in future issues of this publication. In fact, the article in this issue titled Predict Your Risk of Disease to Avert Future Disasters discusses some recent findings on the pathological involvement of inflammatory cytokines in a host of degenerative diseases. Life Extension also has medical doctors available by phone to assist members in understanding what the results of inflammatory cytokine tests indicate.

To order a high sensitivity C-reactive protein blood test, the Inflammatory Cytokine Blood Panel, or any other blood tests by mail order, call **1-800-208-3444**. Until June 1, 2003, the price of a high-sensitivity C-reactive protein test is only $42.00.

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