

Beta 1,3-Glucan - Helping the body fight its own battles

By Marcus Webb

Ask any fibromyalgia sufferer and one of the cardinal features of the illness is an ineffective immune response often in the face of normal blood tests results. Interestingly, observation has been noted in the past and given the rather apt description: lazy leukocyte syndrome. It was first described by in 1971 in two children with recurrent infection. The children had a normal immune system and bone marrow but their simply did not react to the triggers that should have called them to arms and stimulate them to attack an invading bug or more towards an injury site.

What are neutrophils? They are specialist white blood cells that account for 50-70% of our white cells and are the most common type of white blood cell in the body. They engulf and destroy other cells, bacteria and fungi and, rather like a honey-bee, die after doing so. They are the first immune cells to arrive at an infection site attracted by the chemicals released by the inflammatory process.

Infection and injury is normally associated with the process known as inflammation, which in turn, is composed of a complex cascade of chemical triggers designed to stimulate the immune response and healing process. In cases of lazy leukocyte syndrome this step did not function correctly and the immune cells in question failed to react to the queues despite being otherwise normal. Subsequent studies in adults have demonstrated those with lazy leukocyte syndrome do have low levels of circulating neutrophils that can kill bugs but at the lower end of the normal ability expected for these cells. Lazy leukocyte syndrome is by no way the missing link for CFS/FM sufferers but it does illustrate the importance of an effective immune response despite the cells being otherwise normal. Conventional diagnostic tests may reassure all concerned that there are adequate white cells but their function and ability to react to infections and inflammation may be impaired, low or simply ineffective.

There are more theories than facts regarding immune function in CFS/FM, but while the scientists are coming to a decision all those affected by a functionally impaired defense mechanism, despite being too well on paper to be ill, need to look beyond the conventional for an answer or at least some help in the meantime.

For well over 40 years researchers have been documenting the effects of naturally occurring beta glucans derived from the cell walls of yeast, seaweed, grains and some mushrooms. Interest in beta glucans grew after it was noted way back in 1957 that a crude yeast cell preparation significantly stimulated immune cell activity. Since then, its been estimated that over 2000 papers have been published on the immunological activities of beta glucans with focus developing on the specific beta-1,3 D-glucan form. Modern manufacturing techniques have developed taking the beta-1,3 D-glucan contained in the crude yeast extract through a process that yields 96-97% purity compared to the 40-50%

level in the crude yeast extract products of old. Leading the way in beta-1,3 D-glucan purity of the US company Transfer Point who's web pages describe the history and most recent beta glucan research that, in a nutshell, appears to have 4 key effects within the body;

Enhanced white cell production

Enhanced destruction of pathogens

Immune modulation: A balancing effect on an underactive or over active immune response

Enhanced white cell mobility

While it's true to say that there have been no actual studies specifically on the effects of beta glucans in FM cases it is true to say that FM symptoms commonly flare up if an infection is present and that FM sufferers do appear to be more infection prone and may take longer to recover. If, in the case of a non-specific viral infection, there is no appropriate medical therapy its reasonable to consider a natural preparation such as beta glucan. From a dietary perspective, most of the immune enhancing effects attributed to mushrooms such as the Maiyake and Shiitake variety owe their effects to their natural beta glucan content. Increasing your intake of these mushroom varieties on a regular basis is an option and boosting your beta glucan intake with a supplement over stressful periods or when the bugs are doing the rounds could give you an immune advantage.

For maximal absorption, beta glucan supplements are best taken on an empty stomach. Because there have been no studies to say otherwise, beta glucan supplements should be avoided during pregnancy and breast feeding. Unless otherwise advised, those using immune regulating medications should not use beta glucan supplements. Anyone suffering from undiagnosed recurrent infections or fatigue should see their doctor before using beta glucan products.

Resources: History and background research on Beta Glucan: www.transferpoint.com

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