

FUNCTIONAL MEDICINE UPDATE

JUNE 2009

ISSN 1092-1761

Vol. 29, No. 6

This issue features two clinician-of-the-month interviews on the subject of gluten sensitivity and celiac disease. This is Part I in a series on this subject; the discussion will continue in the July 2009 issue with a focus on the pathophysiology of gluten.

Omega-3 Fatty Acids and their Relationship to Immune Function

In the early 1980s, Dr. Bland had the privilege of working with a group of researchers bringing softgel omega-3 fatty acids capsules from England into the United States. He recounts the work of early pioneers in omega-3 fatty acid research, including Dr. Hugh Sinclair, and research partners Bang and Dyerberg, who conducted studies among Greenland Eskimos.

In the mid-to-late 1980s, Dr. Elias Corey and a group of collaborators at Harvard University successfully brought the effects of dietary fish-oil fatty acids on the function of the 5-lipoxygenase pathway to the attention of the medical community. In 1985, this group published a landmark study in *The New England Journal of Medicine* that indicated that fish-oil-derived fatty acids may have anti-inflammatory effects by inhibiting the 5-lipoxygenase pathway in neutrophils and monocytes and inhibiting the leukotriene B4-mediated functions of neutrophils. REF #1

By the 1990s, many crossover studies on omega-3 fatty acids were being conducted and published. Dr. Bland specifically discusses the work of Dr. Joel Kremer of Albany Medical College in New York. Dr. Kremer and his colleagues have published numerous studies on the clinical and immunological effects of fish oil in rheumatoid arthritis patients that show that fish oil ingestion results in subjective alleviation of active rheumatoid arthritis and reduction in neutrophil leukotriene B4 production. REF #2-3

Anti-RAGE and A β Immunoglobulin Levels and their Relationship to Dementia and Cognitive Performance

Dr. Bland discusses a recent article from researchers at the University of Georgia and the Veterans Administration that was published in the *Journal of Gerontology*. These researchers assessed the relationship between blood-based immunoglobulins (IgGs) and an Alzheimer's dementia (AD)-type cognitive profile by looking at the pathway that begins with the neuronal membrane receptor for advanced glycation end products (RAGE) that normally binds advanced glycation end products (AGE) and mediates normal aging processes in tissues. Evidence suggests that the gene that codes for RAGE is overexpressed in areas that degenerate in AD—the hippocampus and frontal lobe—and that this receptor binds amyloid beta (A β) strands. The findings of this study led to the conclusion that anti-RAGE and anti-A β IgGs correlate strongly with global scores of dementia. In addition, they are also associated with a profile of deficiency in domains associated with specific cortical function. These results suggest potential for anti-A β and anti-RAGE IgGs as blood biomarkers for AD. REF #4

Clinician(s)/Researcher(s) of the Month

Alice Bast
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Alice Bast founded the National Foundation for Celiac Awareness (NFCA) based on her personal experience with celiac disease. NFCA gained official status as a 501(c)(3) nonprofit organization in December 2003 and work began on its dual mission of raising awareness of celiac disease to reduce the time to diagnosis, as well as raising funds for education and screening that will improve the quality of life of those who suffer.

Ms. Bast has formed partnerships with major national organizations and become a leading authority on celiac disease. She was awarded a National Institutes of Health (NIH) grant to fund the development of a patient and medical professional education program. Ms. Bast has participated in strategic conferences and workshops shaping programs to advance celiac initiatives nationwide, including the landmark NIH Consensus Conference on Celiac Disease. She has been a keynote speaker at many national medical and allied health industry events, and was a featured presenter at both the 2008 Healthy Foods Conference and the 2008 Natural Products Expo East.

Ms. Bast's personal story and work with the NFCA have garnered national media attention. She has been featured in *Good Housekeeping*, *Newsweek*, and *USA Today* and on nationally televised programs.

Ms. Bast shares her personal story with FMU listeners. She and Dr. Bland go on to discuss her experiences establishing the NFCA and its medical advisory board, and her fundraising and public relations activities, which include a very popular gluten-free "Iron Chef" event that pairs medical professionals with experienced chefs. They also discuss the NFCA website, which features extensive free resources for both clinicians and the public.

Christine Doherty, ND
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Dr. Christine Doherty received her degree in naturopathic medicine from Bastyr University in 1998 and has been in private practice in New Hampshire since 1999. She

has worked with thousands of patients of all ages with chronic diseases, and has been sought out as an expert in autoimmune and gastrointestinal diseases (specifically celiac disease). Dr. Doherty has celiac disease and struggled for many years with symptoms before receiving an accurate diagnosis.

As a public speaker, Dr. Doherty has given dozens of regional and national presentations on topics related to her specialty. She has had articles published locally and nationally, including a cover article in 2005 for *Living Without*, a magazine for people with food allergies and intolerances. Dr. Doherty has been a medical advisor to the magazine since 2004.

Dr. Doherty and Dr. Bland discuss her personal story as well as her clinical work with celiac patients. In looking towards the future, Dr. Doherty expresses a hope that with increased awareness of the symptoms of celiac disease, as well as new dietary options and resources that are becoming available, diagnoses will become more common and more people will receive treatment for this debilitating, but manageable condition.

REF #5-6

New Book on Gluten Sensitivity

Dr. Bland closes this issue with a mention of a new book called *The Gluten Effect*, by Dr. Vikki Petersen and Dr. Richard Petersen. He suggests the book may be a good resource for patients to learn more about the signs and symptoms of gluten sensitivity, as well as lifestyle strategies for restoring health. REF #7

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The information given and discussed in these materials is for research and education purposes only and is not intended to prescribe treatment.