

December 1999 Issue | Tieraona Low Dog, MD

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I recently read an article that concisely stated something that coincides with my thinking. An article in the *Lancet*, titled "The Human Genome Project and the Future of Diagnostics, Treatment, and Prevention"¹ effectively summarized 18 ½ years of *Metabolic Update*, *Preventive Medicine Update*, and *Functional Medicine Update* and pointed forward to the future. I'd like to quote a few excerpts, which describe where we've been, where we are, and where we're going.

"During the past five years the Human Genome Project has had a tremendous influence in the field of medicine and genetics. This influence will soon become extended across the whole of biology and medicine. After centuries of description, we are now on the eve of truly understanding the cellular processes in the human body. This global progress has also allowed more detailed study of the link between basic molecular defects and functional disturbances of processes in cells, organs, and the organism, the so-called genotype/phenotype correlation."

That sentence states what we have been focused on in the inception of functional medicine. The global progress allows a more detailed study of the connection between the genotype and the phenotype. Our genes are often polymorphic. This leads to expression in different ways from individual to individual. It may even be pleomorphic. An individual message may be described or displayed in different ways through altered gene expression, so the genotype and the phenotype can vary dramatically based on environment, diet, lifestyle, stress patterns, toxic exposures, and so forth.

"These correlations are often very elusive, owing to the very many steps in the cascade between cause and effect in the cell, and the complex interactions between multiple genes and environmental factors." We have emphasized that theme in *Functional Medicine Update* over the past several years. We have been examining where these interactions occur and how to assess individual genetic susceptibilities or uniquenesses to the relationships of food sensitivities, toxins, gut dysbiosis, immune or endocrine alterations, intermediary metabolism changes, homocysteinemia and the relationship to folate/B6/B12. The list includes essential fatty acid differences in the metabolism by the delta-6 and delta-5 desaturase and the elongase enzymes. We have been developing, in the 18½ years of *FMU* and its predecessors, an understanding of where healthcare medicine is going. We have not been looking at an offshoot or a sidebar. We are focused on the future direction of the system of medicine.

"Unavoidably, in the face of all the choices that this new technology is providing, the individual's own role as manager of his or her health will become more prominent. The increasing impact of the internet will allow patients much more rapid information retrieval after suspicions are raised or firm diagnosis is made than medical caretakers can ever hope to keep up with. It is essential that medical professionals

readily adapt to this new format of communication. One would rather hope that this unique medium will soon be recruited in a valuable and mature setting to save time currently spent repeating basic information and to assist geneticists and practitioners of medicine and health care in dealing with the expected urge and request for specific information about how to improve function and health."

That is a powerful end-of-millennium statement of where we have been and where we are going with the Human Genome Project. It is telling us not how we are going to die, but how we are probably going to live, how we can extend our health span, how we can compress morbidity. This is the same concept Dr. James Fries described in his 1980 article in the *New England Journal of Medicine* on compression of morbidity and the measure of organ reserve. A fundamental paradigm has emerged. Now we are getting the techniques and tools to expand the toolkit.

INTERVIEW TRANSCRIPT

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Our Clinician of the Month this month is Tieraona Low Dog, MD, from Albuquerque, New Mexico. Her name is familiar to many of you who follow herbal medicine, phytopharmacology, and Native American medicine. She is one of the most highly respected clinicians and speakers in this field. Dr. Low Dog is Medical Director for the Tree House Center of Integrative Medicine in Albuquerque.

JB: What got you into Western medicine integrated with herbal medicine and the Native American construct?

TLD: Thank you for having me on your show and for the good work you have done over so many years. I have been interested in herbal medicine and spiritual medicine all of my life. I was a midwife, an herbalist, and a martial arts instructor for many years here in New Mexico. As more and more people sought my assistance in their ailments, I found I really was able to help them through spiritual medicine, which is a very strong Native approach, looking at how our bodies, our soul, and our environment are connected, and how that connection influences wellness and illness.

People would come to me with problems I didn't quite understand or have enough information on to be able to help them. We were very busy, not just catching babies, but seeing really sick people. I thought I would go and see what Western medicine had to offer. That meant going to study biochemistry and then going to Western medical school. I did my residency in family medicine.

Amazingly, I found the more I studied Western medicine and science, the more mysterious and miraculous life seemed to be to me. As an undergraduate studying bright light, looking at how Newton looked at a prism and saw that white light was actually composed of many different colors of light was an eye-opening revelation to me. In a way it demystified some things that were mysterious, but what it really

showed was how miraculous and awesome these miracles really are. So for me it has been taking the best of what our ancestors have brought us and what traditional wisdom brings and blending them with the awesome, eye-opening revelations that science can bring. Between the two, it is a very powerful combination.

JB: I know you are licensed in acupuncture, you have a massage therapy background, and you've done midwifery. So you are combining many different modalities and philosophies along with botanical medicine. Did the botanical medicine appear to be mechanistic relative to these other energy-in-medicine concepts, or does botanical medicine fit within the same framework?

TLD: Well, I think both. There certainly is an energetic component to plants as well, but when you are speaking to Western practitioners you can often explain many of them in a mechanistic format. You can use biochemistry and pathophysiology to explain the way many of these plants work within the body. And yet I think there is something more to it than that. It goes back to my upbringing. I have been tainted in that way, for the good. I was raised believing there is an energy or a synergy between plants, and when you use them with the right individual in the right combination it is more than just a mechanistic approach. There is something more to the energetics of the plants themselves.

Bibliography

1. Van Ommen GJ, Baker E, den Dunen JT. The human genome project and the future of diagnostics, treatment, and prevention. *Lancet*. 1999;354(suppl 1):5-10.
2. Luo RX, Dean DC. Chromatin remodeling and transcriptional regulation. *J Natl Cancer Inst*. 1999;91:1288-1294.
3. Harksen A, Ueland PM, Refsum H, Meyer K. Four common mutations of cystathionine β synthase gene detected by multiplex PCR and matrix-assisted laser desorption/ionization time-of-flight mass spectrometry. *Clinical Chemistry*. 1999;45(8):1157-1161.
4. Ridker PM. Evaluating novel cardiovascular risk factors: can we better predict heart attacks? *Ann Intern Med*. 1999;130:933-937.
5. Ridker PM, Rifai N, Pfeffer MS, Sacks F, Braunwald E. Long-term effects of pravastatin on plasma concentration of C-reactive protein. *Circulation*. 1999;100:230-235.
6. Niebauer J, Volk H-D, Kemp M, Dominguez M, et al. Endotoxin and immune activation in chronic heart failure: a prospective cohort study. *Lancet*. 1999;353:1838-1842.
7. Bennet JD, Brinkman M. Treatment of ulcerative colitis with implantation of normal colonic flora. *Lancet*. 1989;I:164.
8. Rembacken BJ, Snelling AM, Hawkey PM, Chalmers DM, Axon ATR. Non-pathogenic *Escherichia coli* versus mesalazine for the treatment of ulcerative colitis: a randomised trial. *Lancet*. 1999;354:635-39.
9. Jump DB, Clarke SD. Regulation of gene expression by dietary fat. *Ann Rev Nutr*. 1999;19:63-79. (Check vol. and pg. numbers, as they were hard to read on the copy provided.)
10. Sattar N, Perera M, Small M, Lumsden M-A. Hormone replacement therapy and sensitive C-reactive protein concentrations in women with type-2 diabetes. *Lancet*. 1999;354:487-488.
11. Borch-Johnsen K, Neil A, Balkau B, et al. Glucose tolerance and mortality: comparison of WHO

- and American Diabetes Association diagnostic criteria. *Lancet*. 1999;354:617-621.
12. Kim Y-I. Diet, lifestyle, and colorectal cancer: Is hyperinsulinemia the missing link? *Nutr Rev*. 1999;56(9):275-279.
 13. Su CG, Wen X, Bailey ST, et al. A novel therapy for colitis utilizing PPAR γ ligands to inhibit the epithelial inflammatory response. *J Clin Invest* 1999;104:383-389.
 14. Jacob S, Ruus P, Hermann R, et al. Oral administration of RAC- α -lipoic acid modulates insulin sensitivity in patients with type-2 diabetes mellitus: a placebo-controlled pilot trial. *Free Rad Biol & Med*. 1999;27(3/4):309-314.
 15. Streeper RS, Henriksen EJ, Jacob S, Hokama JY, Fogt DL, Tritschler HJ. Differential effects of lipoic acid stereoisomers on glucose metabolism in insulin-resistant skeletal muscle. *Am J Physiol*. 1997;213:185-191.
 16. Estrada DE, Ewart HS, Tsakiridis T, Volchuk A, Ramlal T, Tritschler H, Klip A. Stimulation of glucose uptake by the natural coenzyme α -lipoic acid/thioctic acid: Participation of elements of the insulin signaling pathway. *Diabetes*. 1996;45:1798-1804.
 17. Wascher TC, Graier WF, Dittrich P, et al. Effects of low-dose L-arginine on insulin-mediated vasodilation and insulin sensitivity. *Eur J Clin Invest* 1997;27:690-695.
 18. Mayer-Davis EJ, D-Agnostino R, Karter AJ, et al. Intensity and amount of physical activity in relation to insulin sensitivity. *JAMA*. 1998;279(9):669-674.
 19. Nestler JE, Jakubowicz DJ, Evans WS, Pasquali R. Effects of metformin on spontaneous and clomiphene-induced ovulation in the polycystic ovary syndrome. *N Engl J Med*. 1998;338:1876-1880.
 20. Nestler JE, Jakubowicz DJ, Reamer P, Gunn RD, Allan G. Ovulatory and metabolic effects of D-*Chiro*-inositol in the polycystic ovary syndrome. *N Engl J Med*. 1999;340:1314-1320.
 21. Larsson O, Barker CJ, Sjöholm A, et al. Inhibition of phosphatases and increased Ca²⁺ channel activity by inositol hexakisphosphate. *Science*. 1997;278:471-474.

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