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## REPORT

### The 2012 A4M Symposium in Dubai, UAE

By Ben Best

On the weekend of November 10-11, 2012 the American Academy of Anti-Aging Medicine (A4M) held an “American Anti-Aging Symposium” in Dubai, United Arab Emirates (UAE). The Symposium consisted of presentations by four American speakers, all of whom are medical doctors. One of the speakers, Dr. Jack Monaco, spoke for a full six-and-a-half-hours. Although only one of the speakers, Dr. Mark Rosenberg, was doing original research, all four presenters gave reviews of recent discoveries of four topics of their interest: bioidentical hormone replacement, ways to lose weight, defeating cancer by understanding cancer mechanisms, and reducing heart disease by understanding the causes.



The city of Dubai features itself as the foremost commercial and tourist center in the Middle East. Burj Khalifa is by far the tallest building in the world and the Dubai Mall is the largest shopping mall in the world (attracting more visitors than New York City, according to Wikipedia). Along with the massive influx of wealth into the Middle East have come diseases of wealth: obesity, diabetes, and cardiovascular disease particularly in the Arab States of the Persian Gulf. More than half the women in Saudi Arabia and Kuwait are obese,<sup>1</sup> and the United Arab Emirates has one of the highest rates of type II diabetes in the world.<sup>2</sup>

The Symposium opened with a welcome speech by the Assistant Undersecretary for Medical Practice and License for the Ministry of Health of the United Arab Emirates, Dr. Amin Al Amiri. It was suggested to me by one of the participants that this is a positive sign that anti-aging medicine may soon be recognized as a medical specialty in the UAE. Dr. Al Amiri said that “Aging needs to be considered a different kind of disease,” and he spoke positively of new technologies like stem cells and bioidentical hormones that are making Dubai a popular medical tourism destination.

#### BIOIDENTICAL HORMONE REPLACEMENT



Jack Monaco, MD, is founder of the Monaco Center for Health & Healing in South Glastonburg, Connecticut. His mother was a Syrian Arab, which might have been part of his appeal as a speaker for this Symposium. Dr. Monaco is Board Certified in Obstetrics and Gynecology, which was his medical practice until 2007 when he became A4M Board Certified in Anti-Aging Medicine and changed his practice to that specialty.

Dr. Monaco mainly spoke about bioidentical hormone replacement. In his view, hormone decline is not due to aging; instead, hormone decline causes aging. He was critical of the massive Women’s Health Initiative (WHI) study of hormone replacement in post-menopausal women, which was halted because of increased incidence of breast cancer, cardiovascular disease, and stroke in women taking Prempro® (Premarin® and Provera®).<sup>3</sup> In absolute terms there was less than one-half of one percent difference between the placebo and hormone replacement groups. It was subsequently shown that the Premarin® (pregnant mare urine horse-estrogenic hormone) was responsible for the increased stroke, and that the Provera® (synthetic progesterone) was responsible for the increased breast cancer.<sup>4</sup> Dr. Monaco cited a study in France which demonstrated that breast cancer risk varies substantially with the type of progesterone used.<sup>5</sup> Natural progesterone is thought to confer a protective effect against certain types of breast cancer.

Contrary to popular opinion, the large size of the WHI does not compensate for the poor quality of the enrollment. Fewer than 5% of the women screened for the WHI study enrolled, about 40% of the hormone replacement group became unblinded before the study ended, and about 40% of the participants had dropped out of the study by the time it was terminated.<sup>6,7</sup> The average BMI

of the WHI was borderline obese, about two-thirds were over age 60 (more than a fifth were over age 70), most had gone through menopause about ten years before the study, and three-quarters had never taken hormone replacement.<sup>6,7</sup>

Concerning Premarin®, Dr. Monaco noted that it would only be bioidentical for horses, and was approved by the FDA in 1942 based on the standards of that time. For humans, he favors the use of hormones that are bioidentical to natural human hormones. He said hormones chemically converted from yams or soy are bioidentical to human sex hormones, but cannot be patented, and are therefore of no interest to drug companies.

Monaco said that sleep is the most **disruptive** symptom of menopause, whereas cognitive problems are the most **disturbing** symptom. Unlike menopause, which is a dramatic event for women, andropause for men is associated with a uniform decline in testosterone throughout life, beginning in the 20s.<sup>8</sup> He prefers topical application over oral tablets as a means of avoiding the “first pass effect” (compounds absorbed by the digestive tract go to the liver for processing before reaching the rest of the body). In administering bioidentical hormones to patients he starts with a low dose and increases dosing gradually until the desired effects are achieved.

Dr. Monaco's personal experience in administering testosterone to himself and to his patients has convinced him that testosterone replacement improves mood, sexual function and general health. He equated using testosterone for age-related hormone decline with obtaining eyeglasses to compensate for declining visual acuity. He has seen no evidence for the claim that testosterone causes angry behavior.

## HOW TO LOSE WEIGHT

Pamela Smith, MD, (Director of the Master's Program in Metabolic and Nutritional Medicine, University of South Florida College of Medicine, Tampa, Florida) said that her father's family is Armenian, apparently to indicate that her heritage is close to Middle Eastern. She spoke on the subject of her recently published book *Why You Can't Lose Weight* with the intention of giving a program to overcome the problems in losing weight. She cautioned, however, that losing too much weight could increase wrinkles.



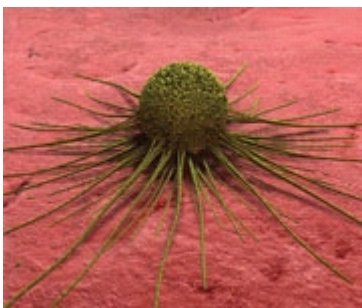
Smith recommends increased dietary fiber, which can be filling and does not contain calories. She recommends starting meals with greens and vegetables. Soluble fiber absorbs water while slowing absorption of sugar and fat, whereas insoluble fiber cleanses the intestines. She warned against eating addictive foods such as fructose,<sup>9</sup> bread,<sup>10</sup> and chocolate.<sup>11</sup> She called sugar the most addictive substance on Earth.

Smith said that mildly allergenic foods can lead to craving those foods. Wheat, dairy, soy, and eggs were the four foods she identified as being the most allergenic. (Life Extension® blood testing services offer a number of food allergy tests.) She said that chronic inflammation due to food intolerance (gluten in grains, lactose in milk products, and tyramine in cheese) can lead to weight gain. She also believes that yeast infection can promote weight gain, but by increasing appetite for carbohydrates, rather than by inflammation. Excessive omega-6 fats, such as are found in corn oil and sunflower oil are also pro-inflammatory, whereas the omega-3 fats in fish oil are anti-inflammatory.<sup>12</sup>

Insulin resistance is the condition in which glucose cannot easily enter cells because cells have become resistant to the ability of insulin to facilitate glucose entry. When blood glucose is high because glucose has difficulty entering cells, the liver converts that glucose to fat. Smith recommends foods that do not rapidly elevate glucose (low glycemic index foods) such as lentils, mushrooms, and plums as opposed to foods that rapidly elevate blood sugar like rice cakes and honey.<sup>13</sup> Smoking<sup>14</sup> and psychological stress<sup>15</sup> can also increase insulin resistance.

Smith asked who in the audience enjoys exercise, and congratulated those who raised their hands. She said that when she met fitness expert Jack LaLanne she confessed to him that she hates to exercise. Jack told her that he hated exercise also, but that he liked the results. Smith recommends finding a form of exercise that is likely to be a permanent part of one's lifestyle which in her case is dancing. (As published in the November 2011 issue of this magazine, Life Extension® believes that Jack LaLanne's death at the age of 96 was most likely caused by inadequate intake of vitamin K2.)<sup>16</sup>

## ANTI-CANCER STRATEGIES



Cancer Cell

Mark Rosenberg, MD, (Medical Director of the Institute for Healthy Aging, Boca Raton, Florida) mainly discussed the special features of cancer cells, and strategies to exploit those special features in developing anti-cancer therapies. But he began his presentation with some critical comments about conventional cancer treatments.

Rosenberg expressed doubts that traditional chemotherapy generally increases cancer survival, citing a study which showed only about a **2%** increase in 5-year survival with chemotherapy.<sup>17</sup> As opposed to most cancers, however, he acknowledged that chemotherapy has proven benefit for lymphomas, testicular cancer, and ovarian cancer. Rosenberg's explanation for why chemotherapy is so often ineffective is that chemotherapy does not affect cancer stem cells. Like other stem cells, cancer stem cells can both self-

replicate and produce functional cells, but the function of cells produced by cancer stem cells is to be cancerous. (Life Extension has long recommended metformin, a drug that seems to kill cancer stem cells.)<sup>18</sup>

Cancer cells tend to divide more rapidly than normal cells, and chemotherapy is most toxic to cells that divide rapidly. Unfortunately, normal cells in the body's immune system and digestive tract also divide rapidly. Traditional chemotherapy attempts to use the maximum dose that a patient can tolerate in the hope of obliterating the cancer. The damage done to normal body cells, however, requires rest periods. Rosenberg said that cancer stem cells do not divide rapidly, and thus elude destruction by chemotherapy. He favors the newer so-called "metronomic" low-dose chemotherapies (administered as regularly as the beat of a metronome) that target cancer stem cells and blood vessel growth.<sup>19-21</sup> (Cancer cells need new blood vessels to support their increasing tissue mass.)

Most of the energy (ATP molecules) generated by cells in the body is created in mitochondria by the use of oxygen (oxidative phosphorylation). Some energy (ATP) can also be generated in cells outside of mitochondria by **glycolysis**, a chemical reaction that uses glucose without the need for oxygen. Unlike normal cells, cancer cells rely on glycolysis for energy, without the need for mitochondria. Mitochondria can self-destruct a cell that has abnormal DNA. Because cancer cells have abnormal DNA the cancer cells sideline use of mitochondria.<sup>22,23</sup> Cancer cells are thus adapted to a low-oxygen environment and this is particularly true of cancer stem cells.<sup>24-26</sup> (Life Extension is independently funding a large clinical study on cancer patients using a drug called dichloroacetate that inhibits cancer cell glycolysis.)

Unlike most normal metabolism, the production of energy by cancer cells (by glycolysis) results in an acid environment. An acid environment is toxic to normal cells, but promotes the development of certain cancer stem cells.<sup>27</sup> Rosenberg noted that reducing acidity with bicarbonate has been shown to reduce tumor growth in mice<sup>28</sup> and that targeting the acid producing capabilities of cells is a means of fighting cancer.<sup>29</sup> Rosenberg's research at the University of Miami has concentrated on exploiting these mechanisms.

## HEART DISEASE FROM DIABETES

Joseph Lamb, MD, (Director of Intramural Clinical Research, Metagenics, Inc., Gig Harbor, Washington), who is Board Certified in Internal Medicine, said that he walked away from a cardiology fellowship in order to concentrate on anti-aging medicine. He evidently spends a great deal of time reading scientific papers about heart disease because his presentation was a detailed review in which he cited a large number of references.



Dr. Lamb said that the reported decline in cardiovascular disease mortality in recent decades is an illusion because of the considerable increase in obesity and diabetes which lead to cardiovascular disease. He said cardiovascular disease is also being caused by metallic toxins, such as lead,<sup>30</sup> arsenic,<sup>31</sup> and mercury.<sup>32</sup>

Lamb said that apolipoprotein B is a more reliable risk factor for cardiovascular disease than plasma LDL (low density lipoprotein) and HDL (high density lipoprotein) cholesterol,<sup>33</sup> partly because of the variability in the size of LDL and HDL particles. Apolipoprotein B functions to attach cholesterol particles to cholesterol receptors. Because there is only one apolipoprotein B molecule for each LDL and Non-HDL cholesterol particle (including IDL and VLDL) made by the liver, measuring apolipoprotein B gives a total count of all Non-HDL and LDL particles. A higher count correlates with more numerous smaller particles and a higher cardiovascular risk.<sup>33</sup>

An even better measure of cardiovascular disease risk, however, is the amount of cholesterol that has been oxidized.<sup>34</sup> High levels of oxidized plasma LDL cholesterol are also associated with the "metabolic syndrome" of diabetes.<sup>35</sup> Markers of plasma oxidation fall substantially after only two weeks of smoking cessation.<sup>36</sup> The "metabolic syndrome" of diabetes is associated with

high levels of inflammatory particles in the bloodstream. A high-fat diet meal (toast laden with butter) elevates plasma inflammatory factors about 50-fold for nearly a half-hour after eating.<sup>37</sup> But a diet high in sugar and carbohydrates is associated with a large waist circumference and the chronic plasma inflammation of the “metabolic syndrome.”<sup>38</sup> (The most successful diets are those that are low in carbohydrates.)<sup>39</sup>

Another characteristic feature of diabetes, metabolic syndrome, and obesity is **insulin resistance**, the condition in which insulin becomes increasingly incapable of enabling glucose to enter cells. High levels of blood insulin lead to increased insulin resistance. Both saccharin (a sugar substitute) and iron increase insulin secretion and plasma insulin levels.<sup>40</sup> Thus, two strategies to reduce weight—an artificial sweetener and lean meat—ironically contribute to insulin resistance.

Dr. Lamb said that **endothelial dysfunction** is an earlier event in the development of cardiovascular disease than atherosclerotic plaque. The endothelium is a thin layer of cells that line blood vessels. The endothelium influences blood vessel functions, such as dilation/contraction, cell adhesion, and transmission of substances between tissues and the blood stream. Dr. Lamb said that postmenopausal women who successfully underwent therapy to reduce high blood pressure were twice as likely to suffer a subsequent cardiovascular event if endothelial function had not been restored.<sup>41</sup> Endothelial function is dependent upon the generation of nitric oxide (NO). Although NO is usually produced by endothelial cells, diet can influence NO availability.

Concerning diabetes treatment, Dr. Lamb cited a study which found that metformin reduced the incidence of type II diabetes by **31%**, but weight loss through diet and exercise reduced the incidence by **58%**.<sup>42</sup> A Mediterranean-style, low glycemic diet for 12 weeks was shown to reduce plasma oxidized LDL by **12%**.<sup>43</sup> Niacin not only raises beneficial HDL cholesterol, it reduces the production of inflammatory proteins<sup>44</sup> and improves endothelial function.<sup>45</sup> Dr. Lamb added that Coenzyme Q10 can improve endothelial function in diabetes patients taking statins.<sup>46</sup>

(Many nutrients (such as pomegranate) used by Life Extension members protect against endothelial dysfunction.)<sup>47</sup>

## SYMPOSIUM QUALITY AND ATTENDEES

Although most of the conferences I attend have presenters describing their own research, I got more value than I was expecting from hearing subject overviews by physicians who have been studying the latest developments in their fields.

In my efforts to meet as many of the attendees as I could, I discovered that many had come from Europe. Many of those who had come from Middle Eastern countries seemed particularly enthusiastic about the concept that something can be done about aging—apparently a new concept to them.

If you have any questions on the scientific content of this article, please call a Life Extension® Health Advisor at 1-866-864-3027.

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