

SYMPOSIUM

A Brief Report

Yale Research Symposium on Complementary and Integrative Medicine

Ather Ali^{a*} and Lawrence A. Vitulano^b

^a*Assistant Director of Integrative Medicine, Prevention Research Center and Associate Research Scientist, Department of Pediatrics; and* ^b*Associate Clinical Professor, Child Study Center, Yale University School of Medicine, New Haven, Connecticut*

The 2010 Yale Research Symposium on Complementary and Integrative Medicine highlighted original research in related areas by Yale faculty and provided a forum to discuss and debate issues of evidence and plausibility. In this brief report, we describe selected presentations on such diverse foci as nutritional influences on cancer, acupuncture for low back pain, protein intake's effects on bone consumption, Chinese herb-derived adjuvant chemotherapy, and the relationship between anger and cardiac arrhythmia. This symposium demonstrated that rigorous research methods are being used to study unconventional therapies and that an integrative medicine approach requires a solid scientific foundation.

Yale joined the Consortium of Academic Health Centers for Integrative Medicine, a group of 44 esteemed academic medical centers committed to complementary and integrative medicine-based education, research, and clinical practice, in November 2006. At that time, no organization existed to support individuals interested in this type of medicine or to encourage growth and development of these topics at Yale. Integrative Medicine at Yale, a multidisciplinary interest group comprised of faculty, students, clinicians, staff, and affiliates of the Yale schools of Medicine, Nursing, and Public Health, was established in response to growing interest

in assessing the efficacy of complementary therapies and the importance of rigorous and innovative research into these therapies. In this context, the 2010 Yale Research Symposium on Complementary and Integrative Medicine took place in March 2010.

A presentation entitled "An Integrative Approach to Cancer: The Biology of Lifestyle Interventions and Cancer Survival" was delivered by D. Barry Boyd, medical oncologist and course director of the complementary and alternative medicine (CAM†) and nutrition curricula at the Yale School of Medicine. Boyd discussed the role of obesity and weight gain as sig-

*To whom all correspondence should be addressed: Ather Ali, Prevention Research Center, 130 Division Street, Derby, CT 06418; Tele: 203-732-1265 x210; E-mail: ather.ali@yale.edu.

†Abbreviations: CAM, complementary and alternative medicine.

nificant prognostic factors in several malignancies, including breast and colorectal cancers, as well as the biological mediators of this relationship, including insulin resistance and hyperinsulinemia.

Boyd noted that caloric restriction, in part through suppression of insulin signaling, has been shown to reduce cancer incidence in multiple animal models and in several observational studies in humans. He also discussed randomized trial data suggesting that cancer survival may be influenced by lifestyle interventions, such as dieting, exercise, and mind-body approaches targeting these hormonal influences.

The majority of the other talks presented original research in CAM-related areas by Yale faculty. Associate Professor of Anesthesiology Shu-Ming Wang discussed her pilot study of auricular acupuncture for the treatment of low back pain during pregnancy. In this randomized trial, pregnant women with low back and posterior pelvic pain were randomly assigned to an acupuncture intervention, a sham acupuncture intervention, or a waiting list control group and followed for two weeks. Subjects receiving acupuncture reported significant pain reduction and improvement of function in comparison to those in the sham acupuncture and control groups. Prior studies of acupuncture and low back pain have yielded mixed results [1], while other reports have demonstrated little difference in efficacy between directed and sham acupuncture points [2]. It is possible that individuals with very severe low back pain benefit more from short-term acupuncture than the previously studied subjects [3].

Professor of Medicine (Endocrinology) and Director of the Yale Bone Center Karl Insogna discussed his research on the effects of dietary protein on intestinal calcium absorption. A longstanding perception was that urine calcium levels associated with increased dietary protein reflected skeletal bone breakdown [4]. Insogna's research challenged this notion by demonstrating that calcium uptake increases in the intestinal brush border in rats consuming increasing proportions of protein. This finding suggests

either the presence of unidentified calcium transporters or the posttranslational modification of certain calcium channels in response to changes in protein intake.

Other talks further investigated the scientific basis for various CAM-related theories and therapies. Associate Professor of Medicine (Cardiology) Rachel Lampert spoke about her research on psychological stress and sudden cardiac death. Her studies demonstrate that anger and other strong emotions can trigger potentially life-threatening ventricular arrhythmias in vulnerable patients [5,6]. Henry Bronson Professor of Pharmacology Yung-Chi "Tommy" Cheng then discussed basic [7] and clinical [8] research on an extract from a traditional Chinese herbal remedy as adjuvant therapy for patients under chemotherapy. Other presentations discussed research on a mindfulness-based stress reduction curriculum for medical residents, the effects of walnuts on endothelial function, the use of a dietary supplement to treat trichotillomania, and chronic Lyme disease. Finally, the day concluded with a moderated discussion of the evidence for and plausibility of CAM in the context of research and clinical practice, presenting the diverging views of Associate Professor (adjunct) of Public Health Practice and Director of the Prevention Research Center David Katz and Assistant Professor of Neurology Steven Novella.

Integrative medicine offers, at least in theory, the opportunity to combine the best of both conventional medicine and CAM to generate better patient outcomes. These outcomes are measured in terms of symptom relief, functional status, patient satisfaction, and cost-effectiveness. The rationale behind implementing integrative medicine depends largely on the rationales for CAM therapies, particularly because the unconventional nature of CAM is often a limiting factor in efforts to advance integrative care [9]. Along these lines, the 2010 Yale Research Symposium on Complementary and Integrative Medicine highlighted the breadth of CAM therapies being studied at Yale and helped educate attendees about the necessity of rigorously researching CAM before widespread clinical implementation.

REFERENCES

1. Lewis K, Abdi S. Acupuncture for lower back pain: a review. *Clin J Pain*. 2010;26(1):60-9.
2. Cherkin DC, Sherman KJ, Avins AL, Erro JH, Ichikawa L, Barlow WE, et al. A randomized trial comparing acupuncture, simulated acupuncture, and usual care for chronic low back pain. *Arch Intern Med*. 2009;169(9):858-66.
3. Sherman KJ, Cherkin DC, Ichikawa L, Avins AL, Barlow WE, Khalsa PS, et al. Characteristics of patients with chronic back pain who benefit from acupuncture. *BMC Musculoskelet Disord*. 2009;10:114.
4. Ginty F. Dietary protein and bone health. *Proc Nutr Soc*. 2003;62(4):867-76.
5. Lampert R, Shusterman V, Burg M, McPherson C, Batsford W, Goldberg A, et al. Anger-induced T-wave alternans predicts future ventricular arrhythmias in patients with implantable cardioverter-defibrillators. *J Am Coll Cardiol*. 2009;53(9):774-8.
6. Stopper M, Joska T, Burg MM, Batsford WP, McPherson CA, Jain D, et al. Electrophysiologic characteristics of anger-triggered arrhythmias. *Heart Rhythm*. 2007;4(3):268-73.
7. Ye M, Liu SH, Jiang Z, Lee Y, Tilton R, Cheng YC. Liquid chromatography/mass spectrometry analysis of PHY906, a Chinese medicine formulation for cancer therapy. *Rapid Commun Mass Spectrom*. 2007;21(22):3593-607.
8. Saif MW, Lansigan F, Ruta S, Lamb L, Mezes M, Elligers K, et al. Phase I study of the botanical formulation PHY906 with capecitabine in advanced pancreatic and other gastrointestinal malignancies. *Phytomedicine*. 2010;17(3-4):161-9.
9. Katz D, Ali A. Preventive Medicine, Integrative Medicine, and the Health of the Public. Summit on Integrative Medicine and the Health of the Public. Washington DC: Institute of Medicine of the National Academies; 2009.