

& Nutrition Mental Health

The Quarterly Newsletter of the International Schizophrenia Foundation



Summer 2005



The tulipped Rite of Spring in Ottawa provided a beautifully perfect weekend for our 34th Annual *Nutritional Medicine Today* conference this year. The castle-like splendour of the Fairmont Château Laurier Hotel was the setting for the conference which featured an extensive mental health component, covering schizophrenia, depression, and optimizing mental performance. Here is a brief look at some of the presentations.

Julia Ross, M.A.

Julia Ross' "Targeted Amino Acid Therapy" program is the result of years of experience in treating eating disorders and addictions in the many "Recovery Systems Clinics" she founded in the San Francisco area. Amino acids, she states, are powerful tools for the treatment of drug, alcohol and carbohydrate addictions as well as mood disorders.

The historical foundations for the current epidemic of carbohydrate addiction began in the 1970s following the expansion of refined sugars in the diet, displacing proteins which are essential to neurotransmitter synthesis. Genetic and envi-

ronmental influences also played a role: pyrroluria and hypoglycemia combined with modern stressors conspire to suppress our natural instincts for real food. Today many people eat not for nourishment but to compensate for the circadian fluctuations of their neurochemical environment.

The neurotransmitter systems that Ross finds most affected in her clients are serotonin, the catecholamines, GABA and the endorphins. Serotonin deficiencies are most prevalent and have been a billion-dollar boon to makers of SSRI drugs. Pharmaceutical researchers have compiled a wealth of physiological data of serotonin deficiency but Ross finds the use of psychological tests more useful for designing nutritional interventions.

Adrenaline, noradrenaline and dopamine are the catecholamines of alertness, motivation and mood. Her clients often exhibit catecholamine deficiencies when presenting with addictions to caffeine, chocolate or methamphetamine. Her treatment here aims to reintroduce adequate protein into every meal and tyrosine to replenish the build-

ing blocks of these neurotransmitters.

GABA, both an amino acid and a neurotransmitter, is often called "nature's tranquilizer." Supplementation with GABA can increase the concentration of the neurotransmitter form to relieve insomnia, stress and adrenal exhaustion.

Ross has often seen how dysregulation of the body's endorphin system is found in chronic pain and grief states in her clients. Endorphins are complex natural pain killing peptides and their synthesis can be enhanced by supplementing the diet with its major precursor, D-phenylalanine (DPLA). In the case of severe chronic pain, she combines DPLA with "TENS" electro-stimulation.

There are many overlapping effects with therapeutic amino acids. For example, glutamine is a valuable and fast acting amino acid which patients often chew to stave off a low blood sugar panic or crash. Microvilli health in the gut is also benefited by dietary glutamine; improved absorption helps the uptake of proteins and other nutrients that Ross finds essential to her practice.

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Parris Kidd, Ph.D.

Dr. Kidd brought his immense orthomolecular experience to the conference with a talk entitled “Cell membrane orthomolecules for optimal mental performance.” Cell membrane fluidity, an often neglected aspect of brain function, is critical in cell energetics, molecule traffic and detoxification—the very processes of life itself. Noting that cell membrane fluidity is often at the crux of biochemical blockages, Dr. Kidd spoke of three phospholipids which are very useful therapeutically: phosphatidyl choline, (PC) phosphatidyl serine (PS) and glycerol-3-phosphocholine (GPC). PC is the most common constituent in membranes but PS is concentrated in the brain and clinical experience shows supplementation to be useful in mild to moderate memory loss, Alzheimer’s and Parkinson’s. The brain is subject to a linear loss of function as we age and PS can reduce that functional age by restoring membrane fluidity and glucose uptake to youthful levels.

Omega 3 fatty acids are also critically important to cell membrane fluidity. Dr. Kidd showed that DHA is the main player in neurons but EPA serves as a building block for eicosanoids which tip physiology to an anti-inflammatory state. Noting the powerful effects of DHA on bipolar disease and ADHD, Dr. Kidd proposed that the enzyme phospholipase A2 is dysfunctional in both these diseases and perhaps conceptualizing mental illnesses as enzyme dysfunctions might be more useful clinically. Glycerophosphorylcholine (GPC) is the latest phospholipid supplement to come to market and it is a premier cell protector which protects neurons and improves signal transmission by serving as a precursor to membrane phospholipids. Dr. Kidd concluded by stating that cell membrane fluidity and antioxidant balance act synergistically and are powerful determinants of the functional age of our brains.

Patrick Holford

Patrick Holford, founder of the Institute of Optimal Nutrition, (ION) has become a renowned authority in his native Britain. He began this year’s Carl Pfeiffer Memorial Lecture by acknowledging his debt to Dr. Pfeiffer (1902–1988) for fostering his interest in nutritional therapy at the age of 18. His subject was homocysteine, a toxic protein often associated with cardiovascular disease but seldom appreciated as a key factor in mental health. Epidemiological data he presented showed that a certain proportion of the population, due to a genetic deficit in an enzyme called methylene-tetrahydrofolate reductase (MTHFR), has naturally high levels of this molecule. Homocysteine is a precursor to SAMe which is central to methylation – a metabolic process for neurotransmitter production which requires the vitamins folate, B₆ and B₁₂. In excessive quantities, however, homocysteine is a marker for oxidation and a direct pathogen.

Homocysteine is implicated in a variety of mental illnesses such as depression, schizophrenia, autism and Alzheimers. One study with 213 depressed female patients showed that half of them had low folate and high homocysteine, and low folate predicted poor outcome to treatment. Holford presented some interesting ION cases, such as that of “Sheila,” who suffered moderate depression and whose homocysteine levels were high at 18.1 mmol/L. Following the ION program for 6 weeks, however, her levels dropped to 8.5 mmol/L as she reported a cessation of symptoms and felt much more energy and motivation.

Homocysteine also has a connection to Alzheimers. A 40 year-old has an average of 10 mmol/L of homocysteine, while in a 90 year-old it averages 20 mmol/L. Many studies show the correlation that even modest increases in circulating homocysteine from 9 to 14 mmol/L doubles

the risk of dementia, and the degenerative process seems to begin perhaps 40 years before the onset of symptoms. Holford presented another ION case: “Mrs.R’s” husband began noticing her memory impairment which became progressively worse over ten years. Bringing his wife to ION, she was found to have very high homocysteine and put on an ION diet with folate, B₁₂ and NAC to decrease her oxidative state. Within 6 months, her deterioration was arrested and her husband reported that she was calmer and more functional.

Holford reiterated the importance of considering homocysteine in patients with mental illnesses, the many innovative tests now available, and the use of selected vitamins, amino acids and fatty acids to optimize methionine metabolism and improve brain function.

Abram Hoffer, M.D., Ph.D.

Abram Hoffer, as has become an NMT tradition, concluded the conference Sunday afternoon with a talk which addressed one of the central mysteries of official resistance to orthomolecular medicine: Is the problem doctors have with it one of treatment or concept? The consummate stumbling block of doctors today is encapsulated in that clarion cry: “If orthomolecular treatment is so good, why aren’t we all using it?”

The main problem seems to be that orthodox psychiatrists regard schizophrenia as an “object” – a discrete disease to be targeted by a breakthrough drug which will finally unlock its mysteries. Dr. Hoffer points out an historical indictment of that myopia. In the 19th century, the Quakers set up homes throughout England to care for schizophrenic patients, providing them with a stable place to live, good food and humane care. They called their therapy the “moral treatment of the insane.” The philosophy was subtle and humanistic, and with nary a capsule of Resperidone, these

Conference Report cont'd

"primitives" managed a 50% recovery rate in patients, an efficacy repeated by such mental health pioneers as John Connelly and Dorothea Dix. How have we progressed from this? The care of the spirit, deemed unscientific, has long been chased out of psychiatry and in its place today is a bland drug monotherapy which has an effective recovery rate of zero.

Dr. Hoffer then introduced Janet Downing, whose 25-year-old son was acutely ill with schizophrenia from the age of 15, and taking a plethora of drugs which caused frightening side effects. Violence, self-injury, disability and suicide attempts summed up her son's existence. In October of 2004, however, she found a miracle in her meeting with Julie Hilton who shared some of Dr. Hoffer's books about schizophrenia. She soon started her son on the orthomolecular treatment and gradually reduced his drugs to the point where she today reports her son free of all delusions, confident and happily working on a ship in the Gulf of Mexico. He recalls little of the nightmare of the past 10 years, remembering only that he was very sick and he lost 10 years of his life for the lack of vision of his previous doctors.

Dr. Hoffer said people like Janet exemplify the unique power laypeople wield as orthomolecular medicine comes into the mainstream. Families and friends of those with schizophrenia have several advantages over psychiatrists: they have the freedom to explore treatments outside the domain of neuroleptic drug therapy; they have the motivation to help their loved ones that no psychiatrist can match; and in their pragmatism, results will always trump methodology and politics.

Orthomolecular medicine embodies more than nutrition, to reach its great potential, patients need shelter, care of body and spirit and respect as people. But how well do these things attract research grants, boost careers or plug neatly into statistical software? Perhaps this is the reason why "everyone" isn't practicing Orthomolecular Medicine.

These were some of the intriguing ideas brought to the delegates of this year's 34th *Nutritional Medicine Today* Conference. Join us next year for the 35th Conference in Vancouver, April 27-30, 2006.

IN BRIEF

D-Serine Potentiates Risperidone and Olanzapine for Treatment-Refractory Schizophrenia

The natural amino acid D-serine is known to increase the activity of the N-methyl-D-aspartate glutamate receptor, and might be able to counteract the hypothesized dysfunction of this receptor class in schizophrenia. Studies performed with Taiwanese patients indicate that D-serine significantly improves schizophrenia symptoms when used as adjuvant to conventional neuroleptics but not to clozapine.

This study assessed the efficacy and safety of D-serine adjuvant treatment for schizophrenia patients treated with newer atypical antipsychotics. Thirty-nine risperidone- or olanzapine-treated schizophrenia patients participated in a double-blind, placebo-controlled, 6-week crossover trial with 30 mg/kg/day D-serine added to their antipsychotic medication. Measures of clinical efficacy and side effects were determined bi-weekly throughout the study. Clinical laboratory parameters and amino acid serum levels were monitored.

D-serine administration increased serine serum levels and resulted in significant improvements in negative, positive, cognitive, and depression symptoms, as measured by the Positive and Negative Syndrome Scale. For approximately one third of the sample, D-serine treatment resulted in significant (>20%) reductions in Brief Psychiatric Rating Scale total scores. D-serine was well tolerated, and no detrimental changes in clinical laboratory parameters were noted. These findings indicate that risperidone and olanzapine efficacy might be augmented with D-serine adjuvant treatment, and warrant the assessment of D-serine antipsychotic monotherapy for this illness as well

—*Biol Psychiat*, 2005; Mar 15;57(6):577-85

Food Additives a Factor in Hyperactive Behaviour in Children

Food additives endemic in our food supply have long been suspected of playing a role in behavior disorders in children. In this study, 277 children (aged 3 years) living on the Isle of Wight, UK,

consumed a 4-week diet free of artificial colorings and benzoate preservatives. During week two of the diet, the children were randomly assigned to receive, in double-blind fashion, daily challenges with a drink containing either: artificial colorings (20 mg/day total; 5 mg/day each of sunset yellow, tartrazine, carmoisine, and ponceau 4R) and sodium benzoate (45 mg/day); or placebo.

At week four, the children were challenged daily with the alternate drink. During the elimination phase of the first week, a significant reduction in hyperactive behavior was observed but in the challenge phase, hyperactive behavior increased significantly when the food additives were given. These differences were identified by parents' ratings but not by objective testing in the clinic. The benefits obtained by simply avoiding food additives was similar to that for clonidine in the treatment of children with ADHD.

—*Arch Dis Child* 2004; 89: 506-511

Folate, Homocysteine and Negative Symptoms in Schizophrenia

Because the enzyme glutamate carboxypeptidase II (GCPII) regulates both folate absorption and activation of N-methyl-d-aspartic acid receptors, the authors of this study examined relationships between serum folate concentrations and clinical symptoms in schizophrenia patients.

For 91 outpatients with schizophrenia, clinical assessments were performed and serum folate, homocysteine, B₁₂, glycine, and serine concentrations were measured. Serum folate concentrations were significantly lower than in a representative of normal reference controls. Folate concentration correlated inversely with the Scale for Assessment of Negative Symptoms and was lower in patients with the deficit than those without. Homocysteine concentration correlated with the severity of extrapyramidal symptoms. These findings could reflect several possible mechanisms, including low dietary intake of folate, low GCPII activity, cigarette smoking, and the involvement of folate in the synthesis of neurotransmitters.

—*Am J Psychiatry*, 2004; 161(9): 1705-8

BOOK REVIEW

Recovery from the Hell of Schizophrenia
A True Story of an Imprisoned Mind, Heart and Soul - Freed
by Carlene Hope
Lulu Press 2005, 190 pages
Softcover US \$19.98

Carlene Hope (a pseudonym) knows about heredity and mental illness. Her book, *Recovery from Schizophrenia* is a generational biography which traces her life from childhood and adolescence to marriage and her own family which struggled with the scourge of schizophrenia.

Carlene begins with her earliest memories - a stranger - than-fiction upbringing written from a child's eye view. She recalled an idyllic childhood with her mother, father and older sister on the family farm which ended like a dream with the divorce of her parents. After this cataclysm, she was never again to have a stable family life as she was shunted from relative to relative, until the day she was abruptly abducted out of school by her long-lost sister and flown to the Caribbean to live with her. Her sister's troubled life, however, eventually culminated in a terrifying psychotic episode which landed her in a psychiatric hospital. Carlene was flown back to the US and again passed through several relatives till she ended up with "Axhella," a villainous and abusive relative who would be her guardian and chief tormentor until her early twenties.

Despite the relentless abuse heaped on her by this relative, Carlene's "guardian angel" seemed always present, and she kept up her school, church and eventually met a wonderful man who would become her husband. To all appearances, she seemed to have escaped the past to a good marriage and family, having first a daughter and then a son. This respite was not to endure, as her son grew up and began to

have troubles. Carlene believed her son inherited the peculiar gene of madness that seemed to follow her extended family like a shadow. His difficulties began physically as overwhelming fatigue and progressed to the psychological - confusion, anxiety and ultimately with what she called his first psychotic "brain attack." Her son, in the grip of full schizophrenia, was hospitalized and drugged to the point where his hallucinations were quelled, along with all emotion, drive, ambition and personality. With her husband she forged a team and held fast, as she fought for her son's sanity. Eventually she got him discharged but over the next few years she experienced the encroaching hopelessness every parent feels when orthodox psychiatry fails to bring their child back to the land of the living.

She never lost faith, though, and eventually found books full of hope and helpful people who knew alternatives. This glimmer of hope began to

grow in spite of the uniform indifference or hostility of her son's psychiatrists to orthomolecular medicine. She found her lifeline in a few sympathetic physicians who did the right tests and followed the methods of Dr. Pfeiffer and Dr. Hoffer.

She eventually made a pilgrimage to Victoria, BC, to see Dr. Hoffer who fine-tuned her son's therapy and brought him to the threshold of recovery.

Carlene offers a valuable account of the process of building an orthomolecular regime while titrating her son's medications to the lowest possible effective dose. There were good and bad days throughout the process, but she knew she was on the right track and firmly convinced that her son's cure would stand on the strength of her family's efforts. Her husband contributes his experiences in the form of a chapter length "letter" from one father to another and an interview chapter with her son offers his perspective, which sounds like the debriefing of a soldier back from long and terrifying imprisonment behind enemy lines. Her son is today a functional and happy young man pursuing a career as a fine artist. Carlene ends her story with a poignant letter to her lost sister, a tribute tinged with regret that as a child many years ago, she was not able to help her sister as she could today.

Although the story in Carlene's book bounces around a bit and has a "homemade" feel to it, her son's recovery from schizophrenia was very much "homemade" and reflected the strength and extraordinary love of this family. Carlene's book has a quiet dignity that shines through and shows how integral the role of the family is in orthomolecular recovery.

-Greg Schilhab

