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Read the abstracts of all papers presented at the conference.

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The biennial meeting of the IACFS *[International Association for CFS/ME]* was held in Ottawa, Ontario, this year. Those who expected Fall leaves and falling temperatures were greeted instead with temperatures in the high 70's and sticky humidity. The theme of the conference could have been "Not What You Expected," instead of "Translating Evidence Into Practice"!

While well attended, there was a notable absence of the "Old Guard" such as David Bell, Jacob Teitelbaum, Ritchie Shoemaker, Suzanne Vernon, Rich Podell, Pat Fennell, and many others. The large support groups (AFSA, NFA, CFIDS Association, CFS Knowledge) were not represented. We missed you all, but I have to say that this meeting attracted a large number of new and active participants. Overall about 200 patients and 200 providers attended, representing over 20 different countries.

Although the theme was "Translating Evidence Into Practice," there was a dearth of papers on treatment. Nevertheless, there were a lot of new researchers and no dearth of new ideas!

This conference was kindly hosted by Lydia Nelson and the ME/CFS Action Network of Canada.

XMRV Wars

Everybody was braced for the Point-Counterpoint between Dr. Mikovits and Dr. Coffin. However, the heat was extinguished by the introductory presentation of Dr. Graham Simmons who eloquently summarized the results of XMRV testing in 7 laboratories, all of whom were

provided blinded specimens (negative controls, spiked (known) positives, and patient samples). Overall, XMRV/MLV was not confirmed in Persons with CFS (PWCs). Only Dr. Mikovits and her colleague Dr. Ruscetti found positive controls, and even these showed disagreement with replicate samples. Thus the work of Mikovits and Ruscetti seemed tainted right from the start.

Nevertheless, Dr. Mikovits (of the Whittemore-Peterson Institute, Reno NV) made a very nice presentation of her own work, explaining that she had double checked all specimens from the original article and found only 6 that were possibly contaminated, and sticking firmly to her hypothesis that XMRV is associated with ME/CFS.

Dr. Coffin (Tufts University, Department of Molecular Biology and Microbiology, Boston MA) countered with a very complicated explanation of how XMRV is most likely the consequence of artifacts originating from leukemia viruses prevalent in both wild and laboratory mice. He explained that such contaminants are widely found in labs and on work surfaces, and that many cell lines that are used to propagate viruses have been contaminated over the years.

Coffin cited the inability of other labs to duplicate Mikovits's efforts; but Dr. Mikovits pointed out that other labs used techniques different from hers and that it took years for labs to find the HIV virus and corroborate findings. In Dr. Mikovits's eyes, the issue is not dead (but perhaps on life support).

Diagnosis

A second debate considered whether tenderpoints are necessary or not to diagnose Fibromyalgia. This debate stems from the release of new clinical criteria that require no physical examination. These were published by the American College of Rheumatology in 2010. The physician need only check off the patient's symptoms and record the number of painful areas on a patient in order to confirm or reject the diagnosis of FM.

Dr. Roland Staud (University of Florida) argued the superior value of tenderpoints compared to dolorimetry (a mechanical device for measuring the severity of tender points), as well as the correlation of tenderpoints with fatigue, anxiety, depression and sleep. He pointed out that tenderpoints reflect the amount of distress more than pain. He was especially negative about the new clinical criteria because it is self-reported and 'too easy to check off boxes' and therefore meet criteria for FM.

Dr. Dan Clauw (University of Michigan) used David Letterman's Top Ten List format to argue against tenderpoints. He argued that tenderpoints convey an incorrect message that FM is about pain alone; that many practitioners don't know how to test for tenderpoints; tenderpoints are not a good measure of pain threshold; and there is no evidence they are necessary to make a diagnosis.

[Ed. note: Both debaters made excellent points but I think they missed two big ones. First, finding more than 11 tenderpoints on a patient confirms the clinical impression for the doctor, and second, tenderpoints represent a physical sign of "something wrong." They validate for the patient and doctor alike that the pain is real and meets some internationally accepted standard. Besides, I firmly agree that patients need to be examined and touched. Just providing another checklist (like the new clinical criteria) just doesn't do it!]

Speaking of criteria, Dr. Bruce Carruthers (medical advisor to the National ME/FM Network, and lead author of the 2003 Canadian Clinical Criteria for ME/CFS) introduced new recommendations for the Canadian criteria. His committee has recommended abandoning the 6 month waiting period, and suggested calling ME/CFS Post-Exertional-Neuroimmune-Exhaustion (or PENE). The committee clarified some of the symptoms required in the prior criteria, and modifications were added for pediatric cases.

[Ed. note: Enough is enough! The 2003 criteria are satisfactory and widely used. The new "changes" are really quite trivial, and the new name is ridiculous. ME/CFS was gaining popularity with doctors and patients alike, so introducing a new name just confuses everybody.]

Lenny Jason, PhD (DePaul University, Chicago) next compared and contrasted the original Ramsey definition of Myalgic Encephalomyelitis, the 1994 CDC (Fukuda or research) criteria, and the 2003 Canadian clinical criteria. The Ramsey criteria are quite succinct, requiring only (1) acute onset of symptoms following a viral-like episode, (2) post-exertional malaise, (3) cognitive difficulties, and (4) autonomic issues. He pointed out that the 1994 Fukuda criteria emphasize fatigue over post-exertional malaise as the key symptom. Also, only 4 of 8 symptom criteria are required by the Fukuda definition, but the diagnosis would be strengthened if 7 of the 8 were required. Finally, the Canadian criteria identified more severe functional and cognitive symptoms, thereby selecting fewer psychiatric cases and more severely ill patients.

[Ed. note. We continue to use primarily the 1994 CDC criteria because they have been accepted for over 15 years and used in the majority of scientific papers, However, we also record the 2003 Canadian criteria. Clinicians should be familiar with both.]

Betsy Keller (Ithaca College, NY) described Cardio-Pulmonary Exercise Testing, pointing out that it is the most reliable and repeatable measure of functional ability in ME/CFS. She also pointed out that results do not change significantly in normal individuals who are tested and then re-tested 24 hours later. However, in PWCs the aerobic capacity (VO2 max), work load, heart rate, and other measures fall more than 8%, confirming the clinical impression post-exertional malaise. She pointed out that many PWCs function at very low levels (say 2-3 METS at their Anaerobic Threshold) and that it takes 1.3 METS to just sit, 1.8 METS to sit and read or write, and 3 METS to just stroll leisurely at the mall. Most activities of daily living require at least 3-5 METS, which explains why patients struggle to keep up at home.

Chris Snell (University of the Pacific, Sacramento) and his group have done much to promote Cardio-Pulmonary Exercise Testing as a measure of impairment and post-exertional malaise. Today the Stevens Test-Retest Protocol is widely used for disability purposes, and was named after one member of the team, Staci Stevens. Snell pointed out that regression equations are used to estimate the aerobic work capacity and anaerobic threshold following indirect estimations of work ability (treadmill test, 6-minute walk, 1.5 miles-for-time), but are notoriously inaccurate due to assumptions made. Only exercise testing with expired gas testing is accurate. Snell also pointed out that the notorious British PACE Trial used the 6-minute walk test as a measure of improvement. At baseline, subjects walked an average of 312 meters in 6 minutes, and after 52 weeks of training they could walk 379 meters, a 21% improvement. This sounds wonderful until you realize that this is the equivalent of walking 2.35 mph (instead of 1.94 mph) for 6 minutes, or about 2 METS – still in the severely disabled category after a year of work!

Ian Treaseden (Imperial College, London) used voxel-based MRI studies to show that white and gray brain matter was decreased in PWCs in their occipital lobes (which control balance), left angular gyrus (affects perceptual sequence learning, action awareness, movement consequences), and the left hippocampal gyrus (which encodes and retrieves memory). These changes can explain many of the balance and cognitive difficulties seen in PWCs, and argue strongly for an organic basis in ME/CFS. Treaseden reassured us, however, that these changes are not permanent.

Many symptoms of CFS and can be attributed to autonomic system dysregulation, poor sympathetic nervous system control, and/or low blood volume. The latter would reduce stroke volume or cardiac output from the heart. Roumiana Boneva (CDC, Atlanta GA) investigated the

possibility that low aldosterone levels lead to low blood volume in ME/CFS. Studying 69 PWCs and 212 controls, Boneva showed that the mean aldosterone was 4.46 in ME/CFS and 6.05 in controls. Neither of these is terribly low, but significantly different (OR = 1.65). The cause is unknown.

[Ed. note: this study confirms the similar study by Bell and Streeten many years ago. Also, the CDC Witchita Study showed that renin is elevated as a regulatory response to low aldosterone.]

Changing gears, Ekua Brenu, a young PhD candidate and very active researcher from Queensland AU, studied cytotoxic function and markers in PWCs at 6 month intervals to determine the stability of these observations over time. She confirmed that suppression of NK cells (CD56) was the most reliable finding, and could be a potential biomarker for ME/CFS. On the other hand, a number of other markers (TH1, TH2, TH17 cytokines, IL1α, IL1β, and TGF-β) varied over time.

Etiology (Causes) and Biomarkers

The possibility of an enteroviral infection as a trigger for ME/CFS in some patients remains intriguing. Enteroviral infections mostly cause flu-like gastrointestinal symptoms (nausea, diarrhea) during the Summer months. John Chia MD (a pathologist and infectious disease specialist in Torrance, California) has long maintained that he and his son contracted ME/CFS from an enterovirus. Using paraffin-embedded biopsies from 132 PWCs, enteroviral protein VP1 was detected in 82% and and dsDNA in 64% of cases. He and his son both recovered by using an herbal antiviral (Equilibrant, see “Treatments” below).

Dr. Martin Lerner, an infectious disease specialist at Wayne State University (Michigan) presented an interesting poster concerning EB virus and ME/CFS. He treated 6 PWCs with valacyclovir (Valtrex, 14.3 mg/kg every 6 hours) for more than 12 months. Checking periodically for the continued presence of EBV, he found no evidence of EBV replication, but instead found “latent abortive reactive replication.” That is, the whole virus was not being manufactured in the body, but various parts of the virus were. These fragments were not infective.

Harvey Moldofsky is a sleep specialist in Toronto, and one of the first doctors to study Fibromyalgia, or fibrositis as it was known in 1975. Moldofsky reported an outbreak of SARS (Severe Acute Respiratory Distress Syndrome, a frequently fatal disease caused by the coronavirus) in Toronto. Of thousands infected, he studied 22 subjects, 21 of whom were first

responder / healthcare workers, who developed chronic symptoms after infection. The symptoms included persistent fatigue, chronic widespread pain, disordered sleep, and depression. Thus, severe viral infections may be counted as one of the many triggers for CFS/ME/FM.

Adverse childhood experiences were evaluated by Jose Alegre (Hospital Vall d'Hebron, Barcelona SP) in 133 adult PWCs. Using personal interviews, childhood adverse experiences were reported by 40%. These included physical abuse (10.4%), sexual abuse (10.4%), emotional neglect (13.7%), and bullying (14.8%).

[Ed. note: some have suggested childhood emotional traumas as one of the major risk factors for ME/CFS, while others conclude that childhood trauma may cause chronic fatigue but not ME/CFS. This paper suggests that the majority of PWCs are not traumatized, and does not prove any causal relationship between trauma and ME/CFS.]

Our old friend, Byron Hyde (Nightingale Foundation, Ottawa) was on hand to warn about a high incidence of thyroid cancer in Canadian patients. One hundred consecutive patients underwent "total body investigation" including thyroid ultrasound and/or scanning. The incidence of thyroid malignancy in this group exceeded 6000 per 100,000, whereas the natural incidence is only 30 per 100,000. Malignant nodules were usually solitary, hypervascular, and > 1cm in diameter.

[Ed note: I have seen only an occasional thyroid malignancy in our population of patients, no more than expected. Hyde's findings are not alarming, therefore, but will cause me to investigate thyroid nodules more aggressively.]

Mary Ann Fletcher and Nancy Klimas (University of Miami) performed prospective cytokine studies in PWCs to determine which biomarkers were most abnormal compared to controls. They found that Lymphotoxin A (or LT, increased 257%), IL4 (240%), IL6 (100%), IL 12 (120%) IL5 (95%), and Neuropeptide Y were most increased above controls, while NK cell numbers were decreased. Lymphocyte Proliferation to mitogen stimulation was decreased, and lymphocyte activation markers (CD26, CD38) were increased. They found little difference in IL13, IL10, IL2, TNFα, IFN, IL15, and IL8. These findings may lead to markers for ME/CFS, and suggest that T cells are metabolically limited in performing their helper function.

[Ed. note: Cytokines are notoriously difficult to measure and vary over time (see Ekua Brenu's work above). The other findings are not new. Of interest, Neuropeptide Y is frequently increased in ME/CFS and correlates best with perceived stress, anger, depression, negative thoughts, and maladaptive coping.]

Treatments

John Chia MD (Torrance, California) has long maintained that he and his son contracted ME/CFS from an enterovirus infection. Enteroviruses (which include the coxsackie and polio viruses) usually cause flu-like symptoms in the Summer months (atypical for influenza, which occurs in the late Fall and Winter). At the last conference in 2009 Chia reported success treating himself, his son, as well as numerous patients who had stomach biopsies positive for enteroviral protein VP1. Treated subjects were given up to 600mg per day of oxymatrine for 3 to 6 months. 52% of the treated subjects improved on a 7-point scale (much better to unchanged to much worse), while only 6% of controls improved. In this year's account, Chia reports an enhanced response when the antibiotic rifampin (300mg twice daily for 7 days) is given concurrently with oxymatrine. Of 48 subjects treated, 32 (67%) responded to such therapy. Two-thirds had a febrile response and transient worsening of symptoms, however, when rifampin was added. Oxymatrine (with or without rifampin) appears to be an effective therapy in a subset of PWCs with evidence of enteroviral infection in the gut.

[Ed. note: Oxymatrine is a traditional herbal Chinese medication used for the treatment of viral hepatitis, viral myocarditis, some skin disorders, and even cancer. It is thought to inhibit the pro-inflammatory cytokines TNF-alpha and IL6. It may also inhibit Substance P (a neurotransmitter partly responsible for fibropain) and antagonizes opioid receptors. Chia currently uses the Equilibrant brand, starting at 1 pill twice daily, then 2 twice daily, then 3 twice daily (available from equilibranthealth.com). The maintenance dose is 1 pill twice daily. Adverse effects include hyperkalemia or hypertension in 1% of cases, and 10% of subjects discontinued the herb due to intolerable side effects. Chia follows patient response by measuring coxsackie B3 antibody titers, TNFα, and the IL12/IL10 ratio.]

An Ampligen update was provided by Dr. David Strayer (Hemispherx Biopharma Inc, Philadelphia), who reminded us that in previous studies 40 weeks of Ampligen therapy improved exercise tolerance by 16.6% (compared to 4.8% on placebo) and reduced concurrent medication use by 72% (56% on placebo). In the current study, 208 Ampligen subjects were analyzed for antibody against XMRV. 33.7% of subjects were positive for XMRV. These subjects were sicker (as measured by activities of daily living and actigraphy). On treatment with Ampligen these same subjects demonstrated a 14% greater exercise response and 24% more reduction in medication use, compared to XMRV-negative subjects.

[Ed. note: The generic name for Ampligen has now been designated as “rintatolimod” by the World Health Organization. Rintatolimod is considered a toll-like receptor agonist (TLR3 agonist). Although XMRV has been discredited by many, this study suggests that persons with antibody to XMRV are sicker than non-positive subjects, but respond better to rintatolimid treatment. Ampligen remains an experimental treatment for ME/CFS, and is available on a cost-recovery basis only at 4 centers in the USA, including the Hunter-Hopkins Center. Potential subjects must meet specific criteria and be approved.]

Fred Friedberg (University of NY/Stony Brook) exposed 68 persons with CFS (40%) or unexplained chronic fatigue (60%) to a Fatigue Self Management Course (n=21), usual medical care plus symptom monitoring (n=26), or usual medical care (n=21). The course involved two sessions with a nurse educator who discussed relaxation, pacing, cognitive coping strategies, walking, pleasant activities, and social support with the subjects. To make a long story short, the Fisk Fatigue Score and Patient Global Impression of Change both improved for those who received the self management course, which was attributed to education, better awareness, and behavioral or lifestyle changes in those who took the course. Those who did not improve generally experienced negative external stressors during the study, such as divorce or financial distress.

[Ed. note: Education and understanding of the condition are stressed at the Hunter-Hopkins Center for just these reasons – patients do better when they are better informed. For those who seek more self help, I suggest taking the online course with Dr. Bruce Campbell (cfsselfhelp.org) or tackling the self-guided course produced by Drs. Lapp and Campbell at tre atCFSFM.org
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Two old friends, Richard Van Konynenburg and Norman Booth, presented posters again this year supporting their hypotheses.

Rich Vank posits that gluthathione depletion causes a partial blockage of the metabolic methylation cycle, which in turn can explain many ME/CFS symptoms. In 2009 he presented a treatment protocol, which he recommends again this year. Details can be found at aboutmecfs. org/Trt/TrtMethylStudy09.pdf
, but in brief summary he recommends gently unblocking the methylation cycle by using 200 mcg of folate, 200 mcg of folate as folic acid and methyl-folate (Actifolate™, Metagenics Labs), a small amount of multivitamin, phosphatidyl serine 500mg, and hydroxycobalamin (oral B12)

2000 mcg. Konynenburg warns about using excessive amounts of these supplements.

Norman Booth once again presented Dr. Sarah Myhill's hypothesis that mitochondrial function is blocked or failed in ME/CFS. An excellent summary of her work and recommendations can be found at drmyhill.co.uk/wiki/CFS_-_The_Central_Cause:_Mitochondrial_Failure . In 2009 Dr. Booth explained a test of mitochondrial function that demonstrated decreased mitochondrial function in 70 of 71 PWCs, compared to a control group of 53 normal healthy subjects. The poster presentation this year focused on a therapeutic protocol consisting of pacing (rest periods and limit setting), a nutritious diet, nutritional supplements, and detoxification. All patients on the protocol moved up at least one point on the Bell Activity Scale (see drlapp.com/more-hhc/forms-and-patient-information , then click on "Adult Forms"), and some as much a 6 units. Booth and Myhill conclude that "whatever the cause of CFS/ME, mitochondrial dysfunction which can affect every cell in the body is a major factor."

[Ed. note: the diet mostly avoided dairy and gluten, but also limited sugar, caffeine, alcohol, aspartame, and MSG. Detoxification was accomplished by infrared sauna therapy. The supplements simply included a multivitamin, B12, vitamin D, CoQ10, and glutathione.]

GcMAF (pronounced "gee-see- MAFF") is the newest fad in ME/CFS treatment. This compound is thought to activate macrophages that are not responding properly, whereby it is also known as Macrophage Activating Factor (MAF) derived from Vitamin D Binding Protein. GcMAF starts as an amino acid attached to three different sugars. B-lymphocytes cleave one sugar, and T-lymphocytes cleave the other, leaving just an amino acid – sugar complex. This complex (GcMAF) binds to dormant macrophages and activates them.

Macrophages are the "police" or "first responders" in our immune systems. When they contact "foreigners" such as viruses or bacteria, macrophages signal lymphocytes of the invasion, then gobble up the invader. Drs. Kenny DeMeirleir (Vrije University, Brussels BE) and Paul Cheney (Asheville NC) presented treatment papers featuring this compound, which has also been tried as an immune modulator in HIV and cancer.

DeMeirleir injected 0.25 to 1 ml weekly (subcu or intravenously) into adult subjects for up to 40 weeks. All were XMRV/MLV positive. He reported that 68/108 (63%) reported "noticeable improvement" in fatigue, sleep quality, pain, neurocognitive function, recovery time, orthostatic intolerance and digestive problems. Side effects occurred in 18%, mostly headache or sleep

disturbance, and 7% dropped out due to these symptoms.

Cheney treated 21 patients for at least 2 months with sublingual GcMAF. 10/21 showed improvement in symptoms, and 5/21 failed to respond or got worse. Most subjects experienced exacerbation of their CFS symptoms, and two developed Vitamin D toxicity.

[Ed. note: We are all seeking new treatments for ME/CFS but I don't think this is it. These posters only described very modest improvement, numbers were small, and side effects were legion. I have now seen several patients who were involved in these studies and they report utter failure. At one time there was a voluntary website where subjects could report their results. When I checked the site, none reported any significant response, but the website has since been shut down.]

Tomohiro Sugino (Soiken Pharmaceuticals, Japan) offered that oxidative stress is very high in PWCs, so anti-oxidants are likely candidates for therapy. He treated 207 fatigued individuals (not ME/CFS) with imidazole dipeptides (carnosine and anserine derived from chicken breast), using 200mg or 400mg daily, compared to placebo. Fatigue (measured by Visual Analog Scale) was reportedly much improved at both doses, especially 400 mg daily. [Ed. note: is this the next "5-Hour Energy" treatment?!]

EECP, or Enhanced External CounterPulsation, is a technique typically applied to persons with angina or congestive heart failure. Balloon-like leggings expand rapidly during the diastolic (relaxation) phase of the heart, pumping blood from the lower extremities to the heart. This increases cardiac output and improves coronary artery perfusion. Because stroke volume and cardiac output have been reported reduced in PWCs, Derek Enlander (NY, NY) treated 20 ME/CFS subjects without coronary artery disease with EECP for 7 weeks. There were no adverse events. There was a modest improvement in the patients' overall well-being (KPS from 56.2 + 8.3 to 62.1 + 9.6), while stroke volume and cardiac output did improve significantly.

[Ed. note: I have had two patients who underwent EECP. One had cardiac disease, the other did not but did not meet criteria for ME/CFS either. Both reported remarkable improvement of their fatigue and other symptoms. Except that this technique is costly and time consuming, there might be benefit for selected patients.]

I have included one study in the treatment section that might fit as well into epidemiology. Irma Pinxterhuis (Oslo University Hospital, NO) entitled her poster, “What Can Be Done To Prevent Deterioration and Promote Occupational Performance.” Studying 15 severely affected women over time, Pinxterhuis aptly defined what helped and did not help. Improvement was affected negatively by lack of support and understanding, expectations or demands from themselves and others, and financial insecurity. What helped is worth emphasizing:

- Support of health care providers and others
- Social support
- Stress management
- Lowered expectations for themselves and from others
- Balanced nutrition and healthy or whole foods

Pinxterhuis wrote, “they needed above all peace of mind and a feeling that they and their family were taken care of, so that they could use all their energy on getting better.”

[Ed. note: Who has worked with severely ill persons and not wondered, “What can be done?” I would add to the guidelines above: Limited mental activity (reading, writing, computing, concentrating); very low activity levels, proceeding slowly (supine range of motion > range of motion with light resistance > very light aerobic activity); minimizing medications and supplements; and prescribing low doses of medication and increasing slowly.]

Epidemiology / General

Lenny Jason (DePaul University, Chicago) discussed the Natural History of chronic fatigue (not Chronic Fatigue Syndrome) based on two studies performed – about 15 years apart – in an ethnically and socioeconomically diverse community population. In 1995-1997 his team examined 213 PWCs medically and psychologically. The prevalence of ME/CFS in 1995 was 0.42%. Sixty-seven percent of these individuals still had ME/CFS 15 years later. Interestingly, of the new cases of ME/CFS, 75% came from the earlier group with Chronic Fatigue, suggesting that this group is at higher risk for developing ME/CFS. On the other hand, 50% of the ME/CFS remitters still had severe Chronic Fatigue but no longer met case definition criteria. Of all variables studied, “post-exertional malaise” best distinguished PWCs from those with chronic fatigue alone.

“CFS Knowledge Among U.S. Healthcare Providers” was discussed by Elizabeth Unger MD PhD, the new head of ME/CFS at the CDC. Unger’s group used a web-based survey of primary

care providers and a consumer mail survey to ask questions about CFS knowledge and management. Remarkably, 94% of providers had heard about CFS compared to only 57% of the public. When asked if CFS was both medical and psychiatric, 71% of providers agreed compared to 30% of the public. Fourteen percent of providers considered CFS purely psychiatric. Only 37% of providers had ever made the diagnosis of ME/CFS, and these were more likely to consider ME/CFS a medical condition. The top methods for management were listed as: refer to a medical specialist (35%), prescribe drugs (29%), refer to a psychologist (26%), or prescribe graded exercise therapy (26%). Consumers would seek information about ME/CFS by talking to a family doctor (72%), searching the internet (54%) and talking to a medical specialist (25%). Only 7% would join a support group.

[Ed.note: It is remarkable to me that over one-third of providers had diagnosed ME/CFS, but about 80% of persons with ME/CFS still have not been diagnosed. Providing internet tools and information to family doctors would seem to be the best method of educating both providers and consumers.]

The natural course of ME/CFS was described by Dr. Katherine Rowe, a pediatrician from Melbourne AU. She followed 788 children (ages 6-18, mean 15, male:female::1:3). She obtained a history and exam from 398 of them, who were then queried every 2 years, and 390 who provided history only were contacted in 2010-2011. Follow-up data was obtained on 86% and 78%, respectively. Bottom line: within 5 years 60% reported recovery and at 12 years 88% reported recovery, although one-third were consciously monitoring their activity. More than 95% were working or studying part or full time. What helped them most to recover were symptom management, continuing social contact, physical activity, and engagement in education (the best predictor of outcome). Massage and diet advice was helpful, but restrictive diets and supplements were not.

[Ed. note: To my recollection, Dr. David Bell reported an 80% recovery rate over 15 years in his Lyndonville population of children. This is in keeping with Rowe's findings, which suggests that the prognosis for children is far better than for adults. Bell and Rowe have both pointed out, however, that "recovery" is relative, and many children must continue to pace, set limits, and monitoring activity well into adult life. Note that continuing engagement in education was the best predictor of outcome.]

Genomics

Researchers continue to look at the genomics of ME/CFS. Ekua Brenu (PhD candidate from Bond University AU) examined microRNAs (miRNAs) that modulate gene expression in PWCs,

particularly those that modulate CD8 cells and Natural Killer cells. Both of these subsets are reduced in ME/CFS. She studied 30 PWCs and compared results from 30 healthy controls. Of the 15 miRNAs studied, six were down-regulated in ME/CFS compared to controls, substantiating that miRNAs may be responsible for poor function of these cells in ME/CFS.

One of the most enlightening studies of the meeting was performed by Drs. Alan and Kathleen Light, and presented by Dr. Cindy Bateman. The Lights compared the gene expression response to exercise in 48 PWCS (15 had CFS only, 33 had CFS+FM) to 49 controls, 20 persons with Multiple Sclerosis, and 18 persons with FM only. Subjects rode an Airdyne bicycle for 25 minutes at 70% of their maximum predicted heart rate, and mRNA was measured at 30 minutes, 8, 24, and 48 hours after exertion.

Patterns of gene expression were remarkably different in each group. Of patients with CFS only there was a subset of 5 / 15 who showed a notable reduction in Ad2A, or α-adrenergic receptors. Of these, 71% had orthostatic intolerance such as Neurally Mediated Hypotension or Postural Orthostatic Tachycardia Syndrome. In addition, gene expression patterns were able to distinguish:

- likelihood of orthostatic intolerance
- FM versus ME/CFS
- FM only from Major Depressive Disorder, and
- the severity of ME/CFS

[Ed. note: This technology shows real promise as a marker for persons with ME/CFS or FM.]

Primer

There is no good source of up-to-date accurate information on the diagnosis and treatment of ME/CFS. The IACFS has stepped in to resolve this problem. A committee of 11 members has developed a brief (less than 30 pages) Primer of ME/CFS. The booklet is currently in its final draft stages and will be made available in the near future. Members of the Primer committee include Ken Friedman, Alison Bested, Ros Vallings, Fred Friedberg, Rosemary Underhill, Alan Gurwitt, Lenny Jason, Staci Stevens, Nancy Klimas, Cindy Bateman, and Chuck Lapp.

Coalition 4 ME/CFS

Many of you may be aware that over the next two years the manner in which illness is defined will be changing radically. Not only is the World Health Organization revamping its disease codes, but by January 2013 the National Center for Health Statistics will unveil the new International Classification of Diseases (ICD-10 CM). The latter is a totally new system of

categorizing illness. How a disease gets categorized makes profound differences with respect to validity and understanding as well as reimbursement amounts and insurance issues.

To this end, the Coalition will be sending letters and 'lobbying' all agencies involved in the categorization process.

Currently CFS is classified under "Symptoms and Signs, Malaise and Fatigue," and the Coalition proposes moving CFS to "Diseases of the Nervous System." Post Viral Fatigue Syndrome is currently classified as "Other Disorders of the Brain," and the Coalition proposes moving PVFS to "Diseases of the Nervous System" also. ME is currently referred to as "Benign Myalgic Encephalomyelitis" and the Coalition proposes to redefine ME as "Myalgic Encephalomyelitis (benign)." The major point here is that ME is anything but benign to one who suffers with it, but the WHO and the NCHS insist on keeping the word "benign" because "ME does not lead to imminent death." [Ed. note: perhaps "non-fatal" would be a better descriptor than "benign"!]

The proposals take CFS and PVFS out of the "just fatigued" category and separate them from psychological disorders that also cause fatigue; they would bring the USA into alignment with the WHO classifications already in effect in Canada and Germany; and they support the recommendation of our CFS Advisory Committee to the Department of Health and Human Services.

If asked to support the Coalition 4 ME/CFS, please give their proposals careful consideration!

I have chosen to limit this review to the presentations that I believe would be most informative and most appreciated by clinicians and patients. This is not meant to be an exhaustive review. Presentations are summarized to the best of my ability, recognizing that errors, omissions, and misinterpretation are all possible. I apologize for any misinterpretations, and welcome your comments or corrections.

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