

CALL IT WHAT YOU WILL: CHRONIC FATIGUE SYNDROME; MYALGIC ENCEPHALITIS; OR CHRONIC FATIGUE IMMUNE DYSFUNCTION SYNDROME. IT'S REAL AND IT'S SERIOUS

Is CFS A Physical Or Mental Illness? Why The Confusion?

By Meryl Nass, MD

January 05, 2002 - What Is chronic fatigue syndrome? Is it a physical disease or a psychiatric disorder? Or is it both physical and emotional? Are people really fatigued, or do they just think they are?

It is really rather odd that after one hundred years of epidemics of chronic fatigue syndrome being identified around the world, and with thousands of articles in the published literature, there remains so much controversy about the disorder.

This is probably due to the fact that psychiatrists have published a lot of the literature. Psychiatry is a field that deals with intangibles. For this reason, for many emotional illnesses, you cannot make a psychiatric diagnosis until you have ruled out physical disease. Physicians and psychiatrists agree on this point.

Although you could accuse me of being a partisan in a medical turf war, I think the psychiatrists didn't complete the drill: they didn't rule out organic illness, and they jumped on a diagnosis that, by its nature, is often associated with psychiatric manifestations.

Who can blame them? Most physicians did not know what to make of these patients, and sent them to the psychiatrist for help. The psychiatrists, told by the physicians that nothing was physically wrong, jumped in with a vengeance to diagnose the "mental aberrations" causing the "perception" of fatigue.

The result has been mass confusion within the medical profession regarding the nature of the illness, and a system-wide failure to sensitively and appropriately care for the affected patients.

The research that would help doctors discover how best to treat the disease did not get done, because most doctors thought there was no "real" disease to research. In an effort to alleviate these problems, Congress allotted funds to be spent by the Centers for Disease Control and Prevention (CDC) for CFS research. However, CDC quietly refused to spend it on CFS, and transferred over half the funds into other research programs. When patient advocates discovered this, CDC's director was forced to apologize, and the monies were returned for funding CFS research.

What are the consequences for patients and their families? Very ill patients are victimized as people that only "think" they are sick. Disability carriers establish criteria that make it almost impossible to qualify for benefits. Families lose trust in the patients. Doctors don't want to see these patients, as they don't know if they are really sick, and have no idea how to make them better. Current medical

compensation methods (HMOs, capitation) ensure that doctors who treat complex, time-intensive patients lose money in the process. Only wealthy patients, in general, can afford the specialized care offered by CFS doctors, who are themselves scrambling to find answers.

What happens when doctors identify a group of patients with similar, but inexplicable symptoms? A syndrome is born, defined by its symptoms, until a better understanding of its origin develops.

Because initially there were no definite findings on lab tests or physical examination that established the diagnosis of CFS, sets of symptom criteria were developed for use in making the diagnosis.

The first well-known set of consensus diagnostic criteria were developed by Gary P. Holmes at CDC in 1988, whose group also selected the name "chronic fatigue syndrome." His paper, which named and defined the syndrome, was published in the Annals of Internal Medicine. These criteria were fairly restrictive, and excluded many with the syndrome. Later, in 1994, Keiji Fukuda's group at CDC revised the criteria, broadening the definition.

More recently, Dr. Pascale De Becker of the Free University of Brussels, Belgium, has strengthened the selection criteria for CFS. I believe she has created the best symptom list yet for this illness. Because there is no simple definition of CFS, I am going to list her twenty cardinal features, which provide a flavor of the illness as well as an indication of how broad its effects can be. Her list includes the following:

- 1) Fatigue
- 2) Swollen or tender lymph nodes
- 3) Sore throats
- 4) Muscle weakness
- 5) Recurring flu-like symptoms
- 6) Post-exertion fatigue (inability to exercise after performing an initial exercise)
- 7) Muscle pain
- 8) Memory disturbances
- 9) Non-restorative sleep
- 10) Hot flashes
- 11) Attention deficit
- 12) Newly developed sensitivities to food and drugs
- 13) Difficulty with word-finding
- 14) Urinary frequency
- 15) Cold extremities
- 16) Photophobia (poor tolerance for bright lights)
- 17) Muscle tremors
- 18) Lightheadedness
- 19) Shortness of breath with mild exercise, and
- 20) Gastrointestinal disturbance

Dr. Anthony Komaroff, a well-known CFS expert at Harvard, has compiled much of the data that show there are, in fact, many definite physical abnormalities in CFS patients. Other scientists have also written on this subject. However, most practicing doctors are not yet aware of these findings. The popular press has been slow to publish on this topic, and the psychiatric researchers studying CFS seem to have missed these revelations as well. The information is beginning to trickle out, however.

Patients with CFS "look" normal, and their routine laboratory tests are normal as well. (More specialized tests are not.) Medical textbooks have been slow to catch on to the fact that you have to dig deeper in order to find the abnormalities. However, the following are now well-established, measurable abnormalities that can be found in many CFS patients:

- 1) Low blood volumes
- 2) Abnormal autonomic nervous system function
- 3) Abnormal blood flow in SPECT studies of brain perfusion
- 4) Cognitive deficits, such as slowed information processing, decreased memory and attention, and impaired handling of multiple tasks simultaneously
- 5) Cardiac rhythm disturbances (possibly related to #2 above)
- 6) Impaired endocrine function, with reduced baseline secretion and reduced responses to stimulation by releasing factors, as well as recently reported smaller size of the adrenal glands
- 7) Reduced exercise performance, following a period of earlier exercise
- 8) Abnormal gastrointestinal motility and flora
- 9) Elevated plasma levels of immune complexes and immunoglobulin G

We've established that CFS patients share a common set of symptoms, and some specialized laboratory, radiologic and cognitive abnormalities. It is a real disease, and in some cases can be extremely severe, leading to disability and occasionally death. But what causes it? How common is it? Is it contagious?

It does not seem to be contagious, for the most part. However, it might be contagious in certain subsets, such as Gulf War veterans. Their illness (Gulf War Syndrome or GWS) strongly overlaps with CFS, although some veterans have additional problems. Some veterans improve markedly on antibiotics, suggesting the presence of chronic infections. Although many Gulf War veterans have reported that spouses and children have developed similar symptoms (usually one year or more after the veteran became ill), there have been no published studies of this illness in family members, so the presence of a transmissible agent remains speculative at this point.

Estimates of prevalence of CFS in the general population range from 0.1% to 1.5%. Since there exists varying criteria for the diagnosis, prevalence rates vary between studies. However, it is likely that at least 500,000 people in the United States are affected.

How do people get CFS? What causes it? That is the \$64,000 question. Chronic fatigue syndrome can develop suddenly or gradually, and a wide range of events and illnesses have been associated with it. No one microorganism or event explains a majority of cases. Instead of being able to say a particular infection caused CFS, one is only able to say that CFS developed after a particular infection, or after an accident or other event.

People may develop CFS following infection with *Borrelia Burgdorferi*, the causative agent in Lyme Disease, or following Q Fever, a rickettsial infection. It may follow mononucleosis (Epstein-Barr virus infection), and has been associated with mycoplasma and Human Herpes Virus 6 infection. It may develop following placement of breast implants or other types of silicone implants, following poisoning with ciguatera (fish) toxin and other toxins, or following vaccination (particularly with anthrax vaccine or hepatitis B vaccine).

Gulf War veterans are frequent sufferers. A neuropathy epidemic in Cuba in 1993, which is believed to have been due to a combination of nutritional deficiency and cyanide toxicity, resulted in an illness with many similar symptoms. Patients with coeliac disease (gluten intolerance) probably have a genetic predisposition to CFS, and restricting their diet could result in a cure for these patients. Many patients with fibromyalgia also meet the criteria for CFS, and in my opinion the two syndromes probably have as yet unknown, but similar or identical underlying mechanisms. Patients with multiple chemical sensitivity also often have CFS. In fact, all the illnesses listed here probably share common physiologic mechanisms, which are not yet understood.

How is CFS treated? The best results seem to come from aggressive treatment of symptoms, since only occasionally can a specific cause be identified and treated effectively. Symptom treatment may mean that physicians are not treating the disorder, per se, but rather optimizing other aspects of the patient's health, which enables their body to cope better with the disorder.

Some treatments include tricyclic or other antidepressants, which can improve the sleep disorder, and alleviate some of the pain experienced by patients. Digestive enzymes and probiotics normalize gastrointestinal flora and improve motility, and "elimination" diets can help identify foods that aggravate a variety of symptoms.

Other treatments might include vitamins and food supplements, electrolytes, hormones, antibiotics, antivirals, blood thinners for those with abnormal clotting tendencies, increased salt and fluids, and attempts at removing toxins from the body.

How effective are these methods? For some patients they work well, but for others none of these approaches solves the problem.

The societal cost of CFS is enormous. Is there more that can be done?

First, societal acknowledgement that CFS is a "real" disorder, would go a long way to removing the stigma associated with the disease.

Fourth, accurate education for health professionals regarding CFS is needed.

Fifth, treatment trials of a large variety of commonly used, but in some cases "alternative," treatments are desperately needed, so health professionals will learn what is really effective for this very frustrating illness.

Recommended Reading

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Laboratory and Clinical differences between CFS and Depression Eleanor Stein MD FRCP(C)

Presented at the 3rd AHMF International Meeting on CFS
December 1/2 2001 Sydney Australia
See www.ahmf.org for meeting abstracts

CFS	Depression
Laboratory/Research Findings	
Decreased urinary 24 hour cortisol (Cleare <i>et al</i> , 2001)	Normal or increased urinary 24 hour cortisol

Dexamethasone over-suppression	Dexamethasone non suppression
Decreased urinary cortisol (Scott & Dinan, 1998)	Increased urinary cortisol (Scott & Dinan, 1998)
QEEG abnormalities different from depression (Flor Henry <i>et al</i> , 2001)	QEEG abnormalities different from CFS
Low prestimulus electrodermal level	Normal prestimulus electrodermal level
High prestimulus digital skin temperature	Normal prestimulus skin temperature
Cerebral blood flow decreased in brain stem (Costa <i>et al</i> , 1995)	Cerebral blood flow decreased in prefrontal cortex (MacHale <i>et al</i> , 2000)

CFS	Depression
Clinical Presentation	
Fatigue is the primary symptom	Mood change is the primary symptom
Both physical and mental fatigue	Physical fatigue rare
Fatigue both physical and mental worsened by physical or mental exertion (Blackwood <i>et al</i> , 1998)	Fatigue and mood improve with exercise
Decreased positive affect (energy, enthusiasm, happiness)	Increased negative affect (apathy, hopelessness, suicidal ideation, self reproach)
Attributional bias only for somatic complaints	Generalized negative attributional bias
Externalizing attributional style (Powell <i>et al</i> , 1990)	Internalizing attributional style (Powell <i>et al</i> , 1990)
Personality disorder no more common than control samples (Pepper <i>et al</i> , 1993)	Increased prevalence of personality disorder than controls (Pepper <i>et al</i> , 1993)
Infectious onset in > 80% of cases	Rarely follows infectious illness
Physical (somatic) symptoms: requires at least 4 eg. swollen lymph nodes, sore throat, muscle and/or joint pain and headache	Not usually associated with physical symptoms
Cognitive dysfunction most problematic symptom present in absence of depression (slow reaction time and slow effortful processing) (Crowe & Casey, 1999) (Michiels & Cluydts, 2001)	Similar to CFS but able to be differentiated on neuropsychological testing (Daly <i>et al</i> , 2001)
Orthostatic intolerance/autonomic dysfunction common (Rowe & Calkins, 1998)	No association with autonomic symptoms
Sleep disorder common	Sleep disorder common
Diurnal variation with pm the worst time of day	Diurnal variation with am the worst time of day
Variability of severity and nature of symptoms	Symptom variability not marked

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