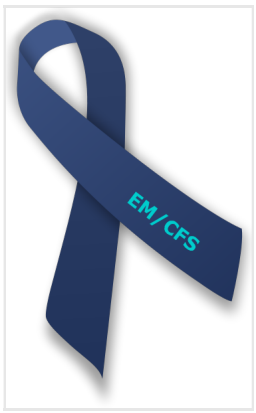
Mialgic Encephalomyelitis / Chronic Fatigue Syndrome



"Myalgic Encephalomyelitis" and "Chronic Fatigue Syndrome" are used interchangeably and this illness is referred to as "ME/CFS". The Expert Consensus Panel, selected by Health Canada, established clinical criteria, and developed an integrative diagnostic and treatment approach to ME/CFS.

Classification

ME/CFS is an acquired organic, pathophysiological, multi-systemic illness that occurs in both sporadic and epidemic forms. Myalgic Encephalomyelitis (ICD 10 G93.3), which includes CFS, is classified as a **neurological disease** in the World Health Organization's International Classification of Diseases (ICD). Chronic fatigue must not be confused with ME/CFS because the "fatigue" of ME/CFS represents pathophysiological exhaustion and is only one of many symptoms. Compelling research evidence of physiological and biochemical abnormalities identifies ME/CFS as a distinct, biological, clinical disorder.

Etiology

Most patients enjoyed a healthy, active lifestyle prior to the onset of ME/CFS. The importance of viral involvement is supported by frequent infective triggers. Elevated levels of a wide variety of intracellular pathogens suggest that a dysfunction in the body's response to infection plays a significant role. The presence of activated immune complexes is supported by activation of elevated levels of T lymphocytes; poor cellular function is suggested by low natural killer cell cytotoxicity. There are confirmed findings of biochemical dysregulation of the 2-5A synthetase/ribonuclease L (RNase L) antiviral defense pathway in monocytes in many cases. Other prodomal events include immunization,

anesthetics, physical trauma, exposure to environmental pollutants, chemicals and heavy metals, and rarely blood transfusions. A rapid and dramatic deterioration of health in acute onset cases often occurs while others have a gradual onset with no obvious cause. In addition to infectious causes, a genetic predisposition5 may be considered when more than one separated family member is afflicted.

Prevalence

Epidemiological studies indicate a wide range of prevalence. However, in a large American sample of more than 28,000 adults, 422 per 100,000 had ME/CFS, suggesting that between 125,000 and 150,000 adult Canadians suffer from ME/CFS. It is more prevalent than lung cancer and AIDS. This illness affects all age groups, including children, all racial/ethnic groups, and all socioeconomic strata. There is a higher prevalence in females. Lower blood volume and lower blood cell mass may be contributing factors in their difficulty in coping with the genesis of ME/CFS.

Natural Course

ME/CFS can be debilitating. In a review study of prognosis, 5 of 6 studies indicated that 0% to 6% (the sixth study indicated 12%) of adults return to their pre-illness level of functioning. Relapses can occur several years after remission. Progressive degeneration of end organs, particularly cardiac or pancreatic failure, may result in death, and suicide is a risk. The prognosis for children and youth is much better. Symptom severity is the best indicator of outcome, but accurate prognosis for an individual cannot be predicted with certainty. Objective postural cardiac output abnormalities correlate with symptom severity and reactive exhaustion.

Definition

A patient with ME/CFS will meet the criteria for fatigue, post-exertional malaise and/or fatigue, sleep dysfunction, and pain; have two or more neurological/cognitive manifestations and one or more symptoms from two of the categories of autonomic, neuroendocrine, and immune manifestations; and adhere to item 7.

1. Fatigue: The patient must have a significant degree of new onset, unexplained, persistent, or recurrent physical and mental fatigue that substantially reduces activity level.

2. Post-Exertional Malaise and/or Fatigue: There is an inappropriate loss of physical and mental stamina, rapid muscular and cognitive fatigability, post exertional malaise and/or fatigue and/or pain and a tendency for other associated symptoms within the patient's cluster of symptoms to worsen. There is a pathologically slow recovery period - usually 24 hours or longer.

3. Sleep Dysfunction: There is unrefreshed sleep or sleep quantity or rhythm disturbances such as reversed or chaotic diurnal sleep rhythms.

4. Pain: There is a significant degree of myalgia. Pain can be experienced in the muscles, and/or joints, and is often widespread and migratory in nature. Often there are significant **headaches** of new type, pattern or severity.

5. Neurological/Cognitive Manifestations: Two or more of the following difficulties should be present: confusion, impairment of concentration and short-term memory consolidation, disorientation, difficulty with information processing, categorizing and word retrieval, and perceptual and sensory disturbances – e.g. spatial instability and disorientation and inability to focus vision. Ataxia, muscle weakness and fasciculations are common. There may be overload phenomena: cognitive, sensory – e.g. photophobia and hypersensitivity to noise - and/or emotional overload, which may lead to "crash" periods and/or anxiety.

6. At Least One Symptom from Two of the Following Categories:

a. Autonomic Manifestations: orthostatic intolerance - neurally mediated hypotension (NMH), postural orthostatic tachycardia syndrome (POTS), delayed postural hypotension; light-headedness; extreme pallor; nausea and irritable bowel syndrome; urinary frequency and bladder dysfunction; palpitations with or without cardiac arrhythmias; exertional dyspnea.

b. Neuroendocrine Manifestations: loss of thermostatic stability – subnormal body temperature and marked diurnal fluctuation, sweating episodes, recurrent feelings of feverishness and cold

extremities; intolerance of extremes of heat and cold; marked weight change - anorexia or abnormal appetite; loss of adaptability and worsening of symptoms with stress.

c. Immune Manifestations: tender lymph nodes, recurrent sore throat, recurrent flulike symptoms, general malaise, new sensitivities to food, medications and/or chemicals.

7. The illness persists for at least six months: It usually has a distinct onset, although it may be gradual. Preliminary diagnosis may be possible earlier. Three months is appropriate for hildren.

To be included, the symptoms must have begun or have been significantly altered after the onset of this illness. It is unlikely that a patient will suffer from all symptoms in criteria 5 & 6. The disturbances tend to form symptom clusters that may fluctuate and change over time. Children often have numerous prominent symptoms but their order of severity tends to vary from day to day. There is a small number of patients who have no pain or sleep dysfunction, but no other diagnosis fits except ME/CFS. A diagnosis of ME/CFS can be entertained when this group has an infectious illness type onset. Some patients have been unhealthy for other reasons prior to the onset of ME/ CFS and lack detectable triggers at onset or have more gradual or insidious onset.

Exclusions

Exclude **active** disease processes that explain most of the major symptoms of fatigue, sleep disturbance, pain, and cognitive dysfunction. It is essential to exclude certain diseases, which would be tragic to miss:

Addison's disease, Cushing's Syndrome, hypothyroidism, hyperthyroidism, iron deficiency, other treatable forms of anemia, iron overload syndrome, diabetes mellitus, and cancer. It is also essential to exclude treatable sleep disorders such as upper airway resistance syndrome and obstructive or central sleep apnea; rheumatological disorders such as rheumatoid arthritis, lupus, polymyositis and polymyalgia rheumatica; immune disorders such as AIDS; neurological disorders such as multiple sclerosis (MS), Parkinsonism, myasthenia gravis and B12 deficiency; infectious diseases such as

tuberculosis, chronic hepatitis, Lyme disease, etc.; primary psychiatric disorders and substance abuse.

Exclusion of other diagnoses, which cannot be reasonably excluded by the patient's history and physical examination, is achieved by laboratory testing and imaging. If a potentially confounding medical condition is under control, then the diagnosis of ME/CFS can be entertained if patients meet the criteria otherwise.

Co-morbid Entities

Fibromyalgia Syndrome (FMS), Myofascial Pain Syndrome (MPS), Temporomandibular Joint Syndrome (TMJ), Irritable Bowel Syndrome (IBS), Interstitial Cystitis, Irritable Bladder Syndrome, Raynaud's Phenomenon, Prolapsed Mitral Valve, Depression, Migraine, Allergies, Multiple Chemical Sensitivities (MCS), Hashimoto's thyroiditis, Sicca Syndrome, etc.

Such co-morbid entities may occur in the setting of ME/CFS. Others such as IBS may precede the development of ME/CFS by many years, but then become associated with it. The same holds true for migraines and depression. Their association is thus looser than between the symptoms within the syndrome. ME/CFS and FMS often closely connect and should be considered to be "overlap syndromes".

SOURCE: **Canadian Consensus on EM/SFC**

Anti-Toxics