

CHRONIC FATIGUE SYNDROME IN CHILDREN

DANA TEODORA ANTON

“Gr. T. Popa” University of Medicine and Pharmacy Iași, Romania

Abstract: Although clinicians have been describing chronic fatigue states for over 100 years, over the past two decades, chronic fatigue syndrome (CFS) of childhood has gained increasing prominence. The article presents the definition, incidence, etiology, clinical picture, positive diagnosis criterion, differential diagnosis, treatment and evolution of CFS, the differences between CFS in children and adults.

Keywords: chronic fatigue syndrome, children

Rezumat: Deși clinicienii au descris stări de oboseală cronică încă de acum 100 de ani, abia în ultimele două decade i s-a acordat importanța cuvenită sindromului de oboseală cronică (SOC) la copil. Articolul prezintă definiția, incidența, cauzele, tabloul clinic, criteriile pentru diagnosticul pozitiv, diagnosticul diferențial, tratamentul și evoluția SOC, precum și diferențele între SOC la copil și adult.

Cuvinte cheie: sindrom de oboseală cronică, copil

Fatigue is one of the most common symptoms in clinical practice. Clinicians have been describing chronic fatigue states for over 100 years, although chronic fatigue syndrome (CFS) is often regarded as a modern disease. The presentation of CFS in children and adolescents was less well studied. Over the past two decades CFS in childhood gained increasing prominence.

Definition: CFS is a complex disease, with unknown etiology, characterized by:

- chronic fatigue state for at least 6 months;
- absence of a clear cause;
- the presence of associated cognitive manifestations;
- the symptoms are not relieved by rest.(1,2)

Incidence: According to the Centre Disease Control nearly one million Americans have CFS, but only 15% have been diagnosed. A substantial number of patients are under the age of 18. Adolescents between 12 and 17 years old are more affected than younger children under 10 years old. Mean age of onset is between 11 and 15 years. In adults, three to four times as many women as men have CFS, but the gender ratio is almost equal in affected children. Usually CFS occurs sporadically, but in 20% of patients affects more than one family member. (2,3,4)

Causes: The cause of CFS is unknown, but frequently the illness follows an acute infection, and immune system changes found in CFS are similar to changes found in some viral infections.(3) Infectious mononucleosis may be a risk factor for CFS in adolescents, relying on the fact that approximately three quarters of adolescents with CFS had active mononucleosis infection as symptom onset.(5) Various immunologic findings have been described in patients with CFS, but none immunologic disturbance has been identified as typical of the syndrome. These disturbances include: depressed natural killer (NK) cell activity, moderate increase in number of circulating lymphocytes and slightly elevated levels of circulating immune complexes.(4)

Clinical picture: Onset of the disease:

- CFS in adolescents usually starts with a fever and flu-like symptoms. The symptoms appear within a few days to weeks.
- in younger children: a gradual onset over months or years.(2,3,6)

The characteristic symptoms of children are:

- unexplained fatigue for at least 6 months, which is not the result of exertion and results in a substantial reduction in previous activities;
- worsening of other symptoms after exertion, with loss of mental and/or physical stamina and delayed recovery of more than 24 hours;
- unrefreshing sleep, day/night reversal, disturbance of sleep quantity or rhythm;
- widespread or migratory pain located in the muscles and/or joints, in the abdomen, chest or increased headaches;
- two or more neuro-cognitive manifestations: impaired short term memory, difficulties in concentration, in finding words or numbers and in understanding information, educational difficulties;
- at least one or two symptoms of the following three subcategories:
 - a. autonomic manifestations (postural hypotension, postural orthostatic tachycardia, shortness of breath);
 - b. neuro-endocrine manifestations: cold extremities, low body temperature, sweating,

CLINICAL ASPECTS

change of appetite or weight, intolerance to heat or cold;

- c. immune manifestations: recurrent flu-like symptoms, sore throat, tender lymph nodes, new sensitivities to food or medicines.(3)

The pattern and severity of the symptoms may change from day to day or during the day.

Diagnosis: To be diagnosed with CFS, the patient must have fatigue and at least four of the symptoms listed above. Usually, the routine tests are normal, but many patients have elevated Ig M/Ig G Coxsackie virus B and C. pneumoniae titer, decreased NK cells, either the percentage or their activity. The diagnosis is more difficult in younger children because they may not recognize that they are fatigued. So, the diagnosis is often made retrospectively when the child is older.(7)

Differential diagnosis: Any chronic disease that produces extensive disability in a setting of persistent fatigue may be included in the differential diagnosis. These diseases may be excluded: chronic anemia, chronic infections, psychiatric and endocrine diseases, inflammatory bowel disease, neoplastic diseases, drug abuse.(1)

Differences between children and adults with CFS: children more commonly report symptoms such as headache, dizziness, abdominal pain, rash, fever and chills. Another difference exists in the recognition of neurological symptoms: the adults have a clear perception of their mental abilities and memory loss and concentration difficulties are easily recognized. In children, these symptoms may appear as progressive school difficulties.(5)

Treatment: there is no medication which will cure the illness, but medication can be helpful in the relief of individual symptoms:

- nonsteroidal anti-inflammatory drugs to reduce joint pains and headaches;
- nonsedating antihistamines for allergic symptoms;
- low doses of antidepressant drugs;
- mineral supplements;
- adequate nutrition;
- physical exercises (aerobic/anaerobic);
- cognitive-behavioural therapy. The patients should be advised to adapt their lifestyle to live within their capabilities.(8,9)

Evolution: Recovery rate is between 27-40%. Relapses are common and may be caused by over-exertion or by other infectious illness.

CONCLUSIONS

1. CFS represents a distinct disorder of childhood.
2. Once the diagnosis confirmed, there must be established a management plan of the disease for child and his family.
3. Further researches into the efficacy of different treatment interventions are needed.

REFERENCES

1. Tolan R, Stewart J. Chronic fatigue syndrome

[Online]. 2009 Jan 21; Available from URL: <http://emedicine.medscape.com/article/971858-overview>.

2. ***Chronic fatigue syndrome [Online]. 2009 July 19; Available from URL: http://en.wikipedia.org/wiki/chronic_fatigue_syndrome.

3. Underhill R. Chronic fatigue syndrome in children and adolescents [Online]. 2007; Available from URL: <http://njcfsa.org/FACTPEDI.html>.

4. Fukuda K, Reeves W, Strauss S. The chronic fatigue syndrome. *Ann Int Med* 1995;123(1):74-6.

5. Barclay L. Infectious mononucleosis may increase risk for chronic fatigue syndrome in teens. *Paediatrics* 2009;124:189-193.

6. ***What is CFIDS in youth? [Online]. 2002 March; Available from URL: <http://www.cfids.org/youth/youth.asp>.

7. Burke C. Chronic fatigue syndrome [Online]. 2008 July 16; Available from URL: <http://emedicine.medscape.com/article/235980-overview>.

8. Van den Putte EM, Engelbert EH, Kuis W, Sinnema G, Kimpfen JL, Uiterwaal CS. Chronic fatigue syndrome and health control in adolescents and parents. *Arch Dis Child* 2005;90(10):1020-4.

9. Wright B, Partridge I, Williams C. Management of chronic fatigue syndrome in children. *Adv Psychiatric Treatment* 2000;6:145-152.