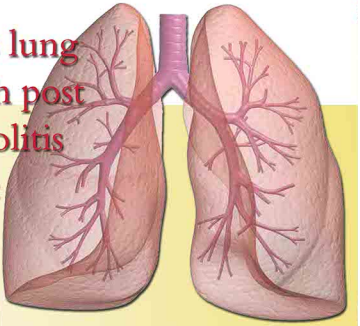
MEDICAL UPDATES

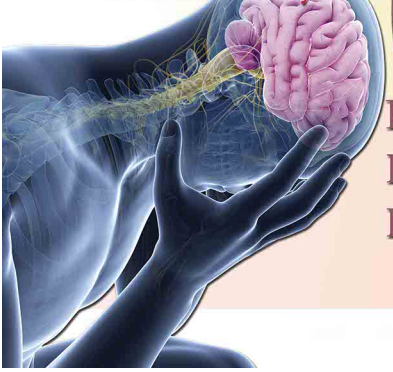
EGYPHAR

Issue No.:18 2014

Nutritional strategies for treating chronic fatigue syndrome.

Azithromycin improves lung function in patients with post lung transplant bronchiolitis obliterans syndrome: A meta-analysis.





Predictors of Post-Infectious Chronic Fatigue Syndrome in Adolescents.

Egyphar Medical Updates

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Altern Med Rev. 2000 Apr;5(2):93-108.

Nutritional strategies for treating chronic fatigue syndrome.

Werbach MR.

UCLA School of Medicine, California, USA.

Abstract

Despite considerable worldwide efforts, no single etiology has been identified to explain the development of chronic fatigue syndrome (CFS).

It is likely that multiple factors promote its development, sometimes with the same factors both causing and being caused by the syndrome.

A detailed review of the literature suggests a number of **marginal nutritional deficiencies may have etiologic relevance.**

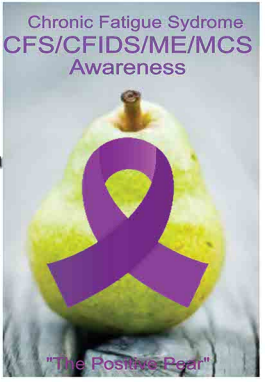
These include deficiencies of various B vitamins, vitamin C, magnesium, sodium, zinc, L-tryptophan, L-carnitine, coenzyme Q10, and essential fatty acids.

Any of these nutrients could be marginally deficient in CFS patients, a finding that appears to be primarily due to the illness process rather than to inadequate diets.

It is likely that marginal deficiencies not only contribute to the clinical manifestations of the syndrome, but also are detrimental to the healing processes.

Therefore, when feasible, objective testing should identify them and their resolution should be assured by repeat testing following initiation of treatment.

Moreover, because of the rarity of serious adverse reactions, the difficulty in ruling out marginal deficiencies, and because some of the therapeutic benefits of nutritional supplements appear to be due to pharmacologic effects, it seems rational to consider supplementing CFS patients with the nutrients discussed above, along with a general high-potency vitamin/mineral supplement, at least for a trial period.



Eur J Appl Physiol. 2014 May 31

Dimensions of pure chronic fatigue: psychophysical, cognitive and biological correlates in the chronic fatigue syndrome.

Neu D

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Abstract

OBJECTIVES:

To investigate associated dimensions of fatigue regarding cognitive impairment, psychomotor performances, muscular effort power and circulating cytokine levels and their relations to symptom intensity in a sample of pure chronic fatigue syndrome (CFS) patients without overlapping objective sleepiness or sleep disorders.

METHODS:

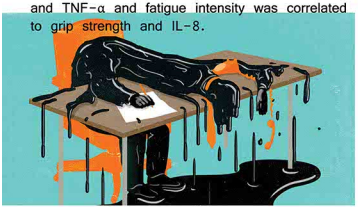
16 CFS patients were compared to 14 matched controls.
We assessed structured symptom-scales, polysomnography, multiple sleep latency tests, attention (Zazzo-Cancellation ZCT, digit-symbol-substitution DSST), psychomotor vigilance and speed (PVT, finger tapping test, FTT), dynamometer handgrip force (tonic and phasic trials) and circulating cytokines (IFN-γ, IL-1b, IL-6, IL-8, IL-10, TNF-α).

RESULTS:

In addition to fatigue, CFS patients presented with higher affective symptom intensity and worse perceived sleep quality.
Polysomnography showed more slow-wave sleep and microarousals in CFS but similarsleep time, efficiency and light-sleep durations than controls. Patients presented with impaired attention (DSST, ZCT), slower reaction times (PVT) but not with lower hit rates (FTT).
Notwithstanding lower grip strength during tonic and phasic trials, CFS also presented with higher fatigability during phasic trials. Cytokine levels were increased for IL-1b, IL-8, IL-10 and TNF-α and fatigue intensity was correlated to grip strength and IL-8.

CONCLUSIONS:

In contrast to sleepiness, chronic fatigue is a more complex phenomenon that cannot be reduced to one single measured dimension (i.e., sleep propensity). Showing its relations to different measurements, our study reflects this multidimensionality, in a psychosomatic disorder such as CFS.
To obtain objective information, routine assessments of fatigue should rule out sleepiness, combine aspects of mental and physical fatigue and focus on fatigability.



The role of oxidative stress and antioxidants in male fertility.

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Department of Andrology and Reproductive Endocrinology, Medical University of Łódź, Poland.

Abstract

Oxidative stress results from the imbalance between production of the reactive oxygen species (ROS) and the protective effect of the antioxidant system responsible for their neutralization and removal.

An excess of ROS causes a pathological reaction resulting in damage to cells and tissues.

Spermatozoa are particularly vulnerable to the harmful effects of ROS.

Spermatozoa are particularly vulnerable to the harmful effects of ROS. Oxidative stress affects their activity, damages DNA structure, and accelerates apoptosis, all of which consequently decrease their numbers, hinders motility and development of normal morphology, and impairs function.

This leads to disturbances in fertility or embryo development disorder.

The main cellular source of ROS in the semen are immature sperm cells and white blood cells.

The increase in the number of leukocytes may be due to infection and inflammation, but can also be secondary to harmful environmental factors, long sexual abstinence, or varicocele.

The protective antioxidant system in the semen is composed of enzymes, as well as nonenzymatic substances, which closely interact with each other to ensure optimal protection against ROS.

Non-enzymatic antioxidants include vitamins A, E, C, and B complex, glutathione, pantothenic acid, coenzyme Q10 and carnitine, and **micronutrients such as zinc, selenium, and copper.**

It seems that a deficiency of any of them can cause a decrease in total antioxidant status.

In vitro and in vivo that studies demonstrate many antioxidants possess a beneficial effect on fertility and, therefore, their use is recommended as supportive therapy for the treatment of infertility in men.

Azithromycin improves lung function in patients with post lung transplant bronchiolitis obliterans syndrome: A meta-analysis.

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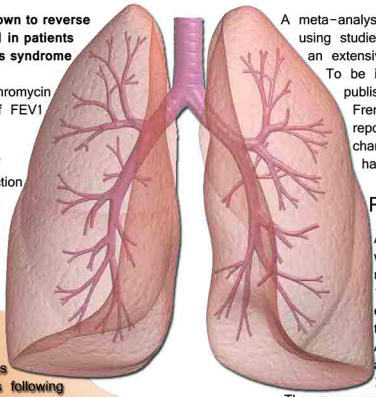
Abstract

INTRODUCTION:

Azithromycin has been shown to reverse or halt the decline of FEV1 in patients with bronchiolitis obliterans syndrome following lung transplant. The overall effect of Azithromycin on the absolute values of FEV1 has not been compared between reported studies. We studied the effects of Azithromycin on lung function in patients with post lung transplant bronchiolitis obliterans syndrome.



METHODS:

A meta-analysis was performed using studies identified following an extensive database search. To be included studies were published in English or French and explicitly reported percentage change in FEV1 or hazard ratios.

RESULTS:

A total of 10 studies were included in this review. 140 patients were evaluated after treatment with Azithromycin for an average follow-up of 7months. The mean percentage increase in FEV1 was 8.8(CI5.1-12.47) p<0.001. The pooled Hazard ratio was 0.25 (CI 0.06-0.56) p=0.041 for a mean follow-up period of 2.9 years.

CONCLUSION:

This study demonstrated a significant improvement in lung function in patients with bronchiolitis obliterans following lung transplant after 7 months of treatment. It remains uncertain whether this improvement stays after 6months. We also found that patients on Azithromycin were less likely to die from bronchiolitis obliterans syndrome compared to patients who were not on Azithromycin.

Arzneimittelforschung. 2012 Jul;

Anti-nociceptive and anti-inflammatory effects of cyanocobalamin (vitamin B12) against acute and chronic pain and inflammation in mice.

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Abstract

In this study, the anti-nociceptive and anti-inflammatory effects of cyanocobalamin (Vit B12) against acute and chronic pain and inflammation were evaluated in mice. Vit B12 (0.87, 1 and 1.77 mg/kg) were injected intraperitoneally.

The anti-nociceptive effects against acute pain were examined using hot-plate and writhing tests.

The chronic pain was examined 14 days after sciatic nerve ligation using the hot-plate test. Morphine (10 mg/kg) was used as a positive control.

Anti-inflammatory effects of Vit B12 against acute and chronic inflammation were assessed using xylene-induced edema in ears and granuloma caused by compressed cotton implantation, respectively.

In these tests, sodium diclofenac (15 mg/kg) was used as a positive control.

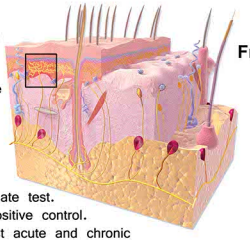
Vit B12 showed a dose related effect in acute anti-nociceptive test and increased the anti-nociceptive effect of morphine in chronic treatment.

Vit B12 demonstrated an anti-nociceptive effect in chronic studies as single or continues daily treatment and increased significantly the anti-nociceptive effect of morphine.

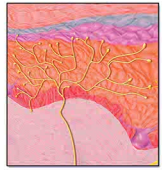
All doses of Vit B12 significantly decreased xylene-induced ear edema. Maximum anti-inflammatory effect (37.5%) was obtained at dose of 1 mg/kg.

In chronic inflammation, Vit B12 significantly decreased granuloma formation in mice.

In conclusion our work presents some experimental evidence supporting the administration of cyanocobalamin in controlling acute and chronic neuropathic pain. Cyanocobalamin may have anti-inflammatory effect. It may reduce tolerance to anti-nociceptive effect of morphine as well.



Free Nerve Endings



J Affect Disord. 2006 Feb

Lower serum zinc in Chronic Fatigue Syndrome (CFS): relationships to immune dysfunctions and relevance for the oxidative stress status in CFS.

Maes M1, Mihaylova I, De Ruyter M.

Abstract

The present study examines serum zinc concentrations in patients with chronic fatigue syndrome (CFS) versus normal volunteers.

Serum zinc levels were determined by means of an atomic absorption method.

We found that serum zinc was significantly lower in the CFS patients than in the normal controls.

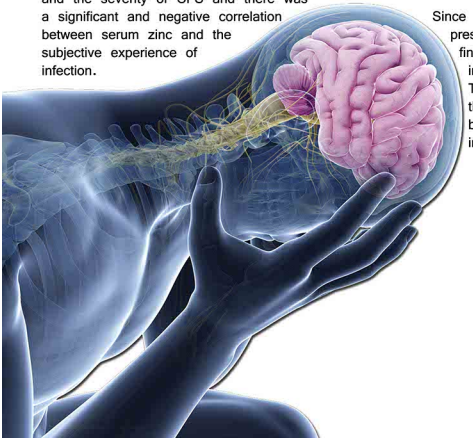
There was a trend toward a significant negative correlation between serum zinc and the severity of CFS and there was a significant and negative correlation between serum zinc and the subjective experience of infection.

We found that serum zinc was significantly and negatively correlated to the increase in the alpha2 protein fraction and positively correlated to decreases in the expression of mitogen-induced CD69+ (a T cell activation marker) on CD3+ as well as CD3+CD8+ T cells.

These results show that CFS is accompanied by a low serum zinc status and that the latter is related to signs of inflammation and defects in early T cell activation pathways.

Since zinc is a strong anti-oxidant, the present results further support the findings that CFS is accompanied by increased oxidative stress.

The results of these reports suggest that some patients with CFS should be treated with specific antioxidants, including zinc supplements.



Health Psychol Behav Med. 2014 Jan 1;2(1):41-51.

Predictors of Post-Infectious Chronic Fatigue Syndrome in Adolescents.

Jason LA et al

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Abstract

This study focused on identifying risk factors for adolescent post-infectious chronic fatigue syndrome (CFS), utilizing a prospective, nested case-control longitudinal design in which over 300 teenagers with infectious Mononucleosis (IM) were identified through primary care sites and followed.

Baseline variables that were gathered several months following IM, included autonomic symptoms, days in bed since IM, perceived stress, stressful life events, family stress, difficulty functioning and attending school, family stress and psychiatric disorders.

A number of variables were predictors of post-infectious CFS at 6 months; however, when autonomic symptoms were used as a control variable, only days spent in bed since mono was a significant predictor. Step-wise logistic regression findings indicated that baseline autonomic symptoms as well as days spent in bed since mono, which reflect the severity of illness, were the only significant predictors of those who met CFS criteria at 6 months.