MEDICAL UPDATES

EGYPHAR

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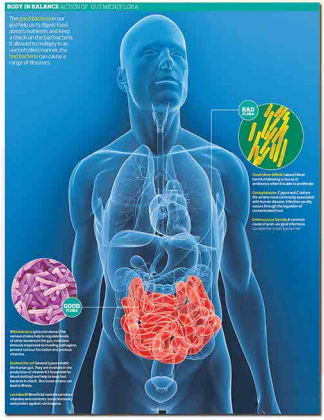
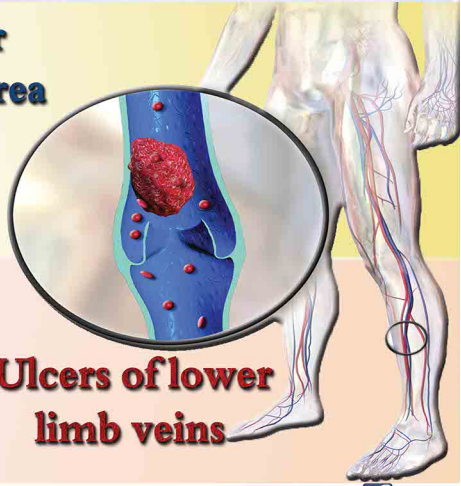
Lower serum zinc in Chronic Fatigue Syndrome (CFS)

Azithromycin for Traveller's diarrea





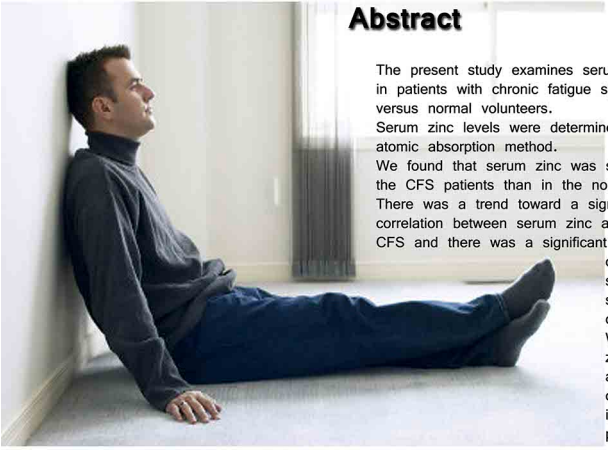
Ulcers of lower limb veins

J Affect Disord. Feb 2006

Lower serum zinc in Chronic Fatigue Syndrome (CFS).

Maes M1, Mihaylova I, De Ruyter M

Outpatient Clinics, Olmenlaan Belgium



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.

Anti-nociceptive and anti-inflammatory effects of cyanocobalamin(vitamin B12)

Hosseinzadeh H1, et al.

Department of Pharmacodynamics and Toxicology, Mashhad University of Medical Sciences,

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.

Rev Enferm. May 2014

Ulcers of lower limb veins: (venous ulcers)

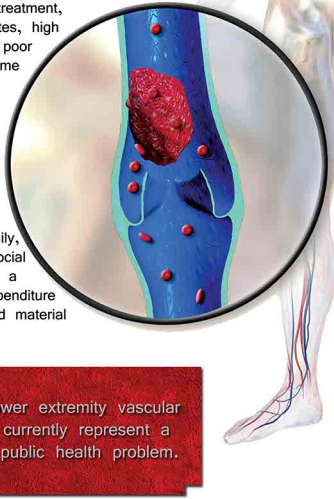
ópez Herranz M. et.al.

Revista Latino-Americana, Brazil.

Abstract

The lower extremity vascular ulcers currently represent a major public health problem, particularly because of different situations: the chronic nature of the injury, a poor response to treatment, recurrence rates, high absenteeism, poor training in some cases of the health staff that treats, etc.
Lower extremity ulcers mean a serious personal, family, health and social problem, with a significant expenditure of human and material resources.

Since the prevalence and incidence of lower extremity vascular ulcers is high worldwide, it is necessary to go into detail about the knowledge of the epidemiology and to favour, in different countries, the creation of interdisciplinary research groups that addresses issues related to risk factors, pathogenesis, treatment, health care costs, quality of life and, above all, specialized training aimed at health professionals.



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Azithromycin for Traveller's dihrrea

Recommended antibiotic dosages for treating travelers' diarrhea in adults and children[12]

Antibiotic	dosages for adults	dosages for children
Azithromycin	1000 mg qd for 1-3 days	10 mg/kg/d for 3 days
Ciprofloxacin	500 mg bid for 1-3 days	Not FDA approved for use in children
Levofloxacin	500 mg qd for 1-3 days	Not FDA approved for use in children
Norfloxacin	400 mg qd for 1-3 days	Not FDA approved for use in children
Ofloxacin	300 mg bid for 1-3 days	Not FDA approved for use in children
Rifaximin	200 mg tid for 3 days	FDA approved for children > 12 years; use adult dosage

FDA US Food and Drug Administration.

Traveler's diarrhea ris determination.

Dietary choices. Additionally, since travelers acquire TD by ingesting food or beverages contaminated with pathogenic fecal microbes, dietary behaviors during the trip affect their susceptibility.
At least risk are business travelers and tourists who confine their activities to more affluent settings in which food and beverages are prepared and stored hygienically.

At greater risk are travelers who immerse themselves in local culture, visiting locations that are more impoverished and not as well equipped with sanitation systems, especially if their stay is at least 2 to 3 weeks.

Also, the older a traveler is, the lower his or her risk of TD. An exception to this might be infants whose diet consists solely of breast milk or formula prepared under sanitary conditions.

Mandates and options for preventing TD

Emphasize food and beverage precautions

It might be reasonable to expect that travelers who are circumspect about their food and beverage choices on trips will be able to avoid TD.
Indeed, this is the basis for the aphorism, "Boil it, peel it, or forget it."
Guidelines routinely recommend that travelers restrict their selection of foods to those that have been well cooked and are served while still very hot, and to fruits and vegetables that they peel themselves. Likewise, they should drink only beverages that have been boiled or are in sealed bottles or under carbonation and served without ice.

Many travelers might find these recommendations too restrictive to follow faithfully. Moreover, studies suggest it may not be possible for even the most assiduous traveler to fully avoid the risk of TD. The hygienic characteristics of the travel destination may be more determinative, as illustrated by the successful reduction of TD rates in Jamaica by improving sanitation in tourist resorts.

Other bacteria of importance are Campylobacter, Salmonella, and Shigella. Viruses, particularly norovirus (notably connected with cruise ships), can also cause TD, although it is implicated in no more than 17% of cases.

Antibiotic chemoprophylaxis: A debated practice with limited consensus.
The etiologic agents of TD are multiple and vary somewhat in predominance according to geographic region.
TABLE 1 depicts variance by region.
The most common pathogens are strains of the bacterium Escherichia coli, particularly enterotoxigenic (ETEC), enteroaggregative (EAEC), and enteropathogenic (EPEC) strains.

Parasitic pathogens are even less common causes of TD (4%–10%) and mainly involve the protozoa, Giardia lamblia, and, to a lesser extent, Entamoeba histolytica and Cryptosporidium.

Worldwide geographical variation of predominant etiologic agents of TD[16]

Region	Etiologic agent (top 4 in each region listed in descending prevalence)
Latin America and Caribbean	ETEC, EAEC, norovirus, EPEC
South Asia	ETEC, EAEC, *Salmonella*, *Shigella*
Southeast Asia	*Campylobacter*, EPEC, *Salmonella*, noncholera *Vibrio*
Africa	ETEC, norovirus, *Shigella*, EPEC

EAEC, enteroaggregative *Escherichia coli*; EPEC, enteropathogenic *E coli*; ETEC, enterotoxigenic *E coli*; TD, travelers' diarrhea.

Although some pathogens often have a characteristic presentation—such as frothy, greasy diarrhea in the case of G lamblia—they generally cannot be reliably distinguished from one another clinically.
Notably, up to 50% of stool samples from TD patients do not yield any pathogen, raising the suspicion that current diagnostic technology is not sufficiently sensitive to routinely identify certain bacteria.

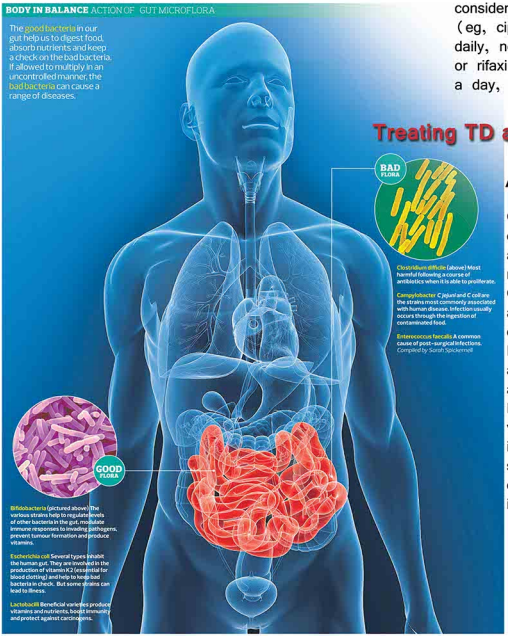
Proponents of antibiotic chemoprophylaxis point to its demonstrated efficacy in reducing the risk of TD by 4% to 40%.
They also argue that at least 20% to 25% of travelers who get TD must significantly curtail their activities for a day or more.

There is no consensus on recommending antibiotic chemoprophylaxis against TD.

Opponents of this practice point out that TD is generally a brief (3–5 days), self-limited illness.
Moreover, concerns about antibiotic resistance have come to pass.
Previously used agents, trimethoprim-sulfamethoxazole and doxycycline, are no longer effective in preventing or treating TD.
In addition, antibiotic use carries the risk of allergic reactions as well as other adverse effects including, ironically, the development of antibiotic-associated diarrhea and Clostridium difficile diarrhea.

This change in travel plans is associated not only with significant personal loss but also imposes a financial burden.
Furthermore, TD is known to have longer-term effects.
Up to 10% of sufferers develop postinfectious irritable bowel syndrome (PI-IBS) that can last for 5 or 6 years.
It is not known, however, whether the use of antibiotic chemoprophylaxis significantly reduces the incidence of PI-IBS.

Indications on which all agree. Even opponents of antibiotic chemoprophylaxis grant that it is probably warranted for 2 groups of travelers.
The first is those whose trip schedule is of such importance that any deviation would be intolerable.
The second is travelers with comorbidities that would render them at high risk for serious inconvenience or illness if they developed TD.



Finally, the luminal antibiotic, rifaximin, nonabsorbable as it is, is very well-tolerated and holds promise for not inciting antibiotic resistance.
However, while its efficacy in preventing TD has been demonstrated in various settings, it is not approved by the US Food and Drug Administration for this indication.
Also, concerns persist that it might not be effective in preventing TD caused by invasive pathogens.

Examples of the latter include patients with enterostomies, mobility impairments, immune suppression, inflammatory bowel disease, and renal or metabolic diseases.

Chemoprophylaxis regimens. If you prescribe an antibiotic prophylactically, consider daily doses of a fluoroquinolone (eg, ciprofloxacin 500 mg orally once daily, not twice daily as for treatment) or rifaximin 200 mg orally once or twice a day, for no longer than 2 to 3 weeks.[10]

Treating TD and associated symptoms

Antibiotic treatment

Given that most cases of TD are caused by bacterial pathogens, antibiotics are considered the mainstay of treatment.
Concerns about the ill effects of antibiotic use in the case of enterohemorrhagic E coli (EHEC O157:H7) can be allayed because this strain is rarely a cause of TD.
Patient factors that increase vulnerability to TD are immunodeficiency, achlorhydric states such as atrophic gastritis, and chronic use of proton pump inhibitors.

Consider local resistance patterns and risk of invasive infection.

Which antibiotic to recommend is governed by the antibiotic resistance patterns prevalent in the travel destinations and by the risk of infection by invasive pathogens.

Invasive TD is generally caused by Campylobacter, Shigella, or Salmonella and manifests clinically with bloody diarrhea, fever, or both.

Rifaximin at a dose of 200 mg orally 3 times daily is effective for noninvasive TD.

However, travelers who develop invasive TD need an alternative to rifaximin.

(Those who advocate reserving antibiotic treatment only for invasive diarrhea will not see a role for rifaximin in the first place.)

In most invasive cases, a fluoroquinolone will suffice.

However, increasing prevalence of fluoroquinolone-resistantCampylobacter species has been reported in South and Southeast Asia.

In those locations, azithromycin is an effective alternative, albeit with risk of nausea.

TABLE provides details of recommended antibiotic dosages for adults and children.

The duration of treatment is generally 1 day unless symptoms persist, in which case a 3-day course is recommended.

If the traveler experiences persistent, new, or worsening symptoms beyond this point, immediate evaluation by a physician is required.