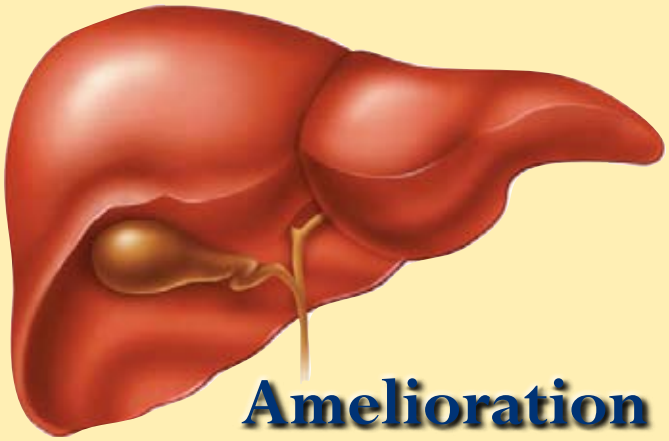
MEDICAL UPDATES

EGYPHAR

Issue No.:9 April 2012

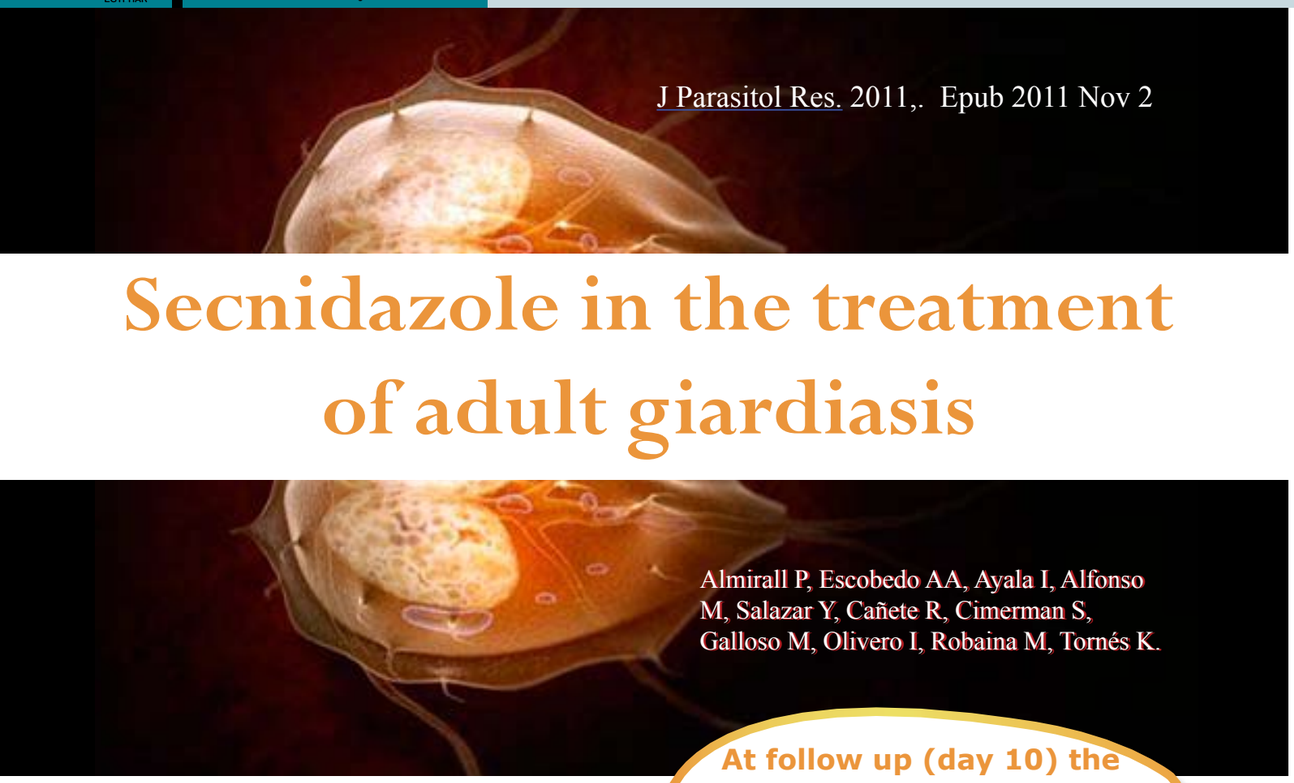


Amelioration of oxidative stress by dandelion extract against acute liver injury

Secnidazole in the treatment of adult giardiasis

Symptom experience... Adherence to therapeutic anti-hypertensive regimens

Egyphar Medical Updates



J Parasitol Res. 2011,. Epub 2011 Nov 2

Secnidazole in the treatment of adult giardiasis

Almirall P, Escobedo AA, Ayala I, Alfonso M, Salazar Y, Cañete R, Cimerman S, Galloso M, Olivero I, Robaina M, Tornés K.

At follow up (day 10) the parasitological cure rate for the per protocol populations was 88.7% (55/62) for MBZ and 91.8% (56/61) for SNZ

Abstract

To compare the efficacy and safety of mebendazole **(MBZ)** and secnidazole **(SNZ)** in the treatment of giardiasis in adult patients, a single-centre, parallel group, open-label, randomized non-inferiority trial was carried out. One-hundred and 26 participants who had symptomatic Giardia mono-infection took part in the study.

Direct wet mount and/or Ritchie concentration techniques and physical examinations were conducted at the time of enrolment and at the follow-up visit. The primary outcome measure was parasitological cure, performed at 3, 5, 10 days post-treatment. Negative faecal specimens for Giardia were ensured by the same parasitological techniques. At follow up (day 10) the parasitological cure rate for the per protocol populations was 88.7% (55/62) for MBZ and 91.8% (56/61) for SNZ. For the intention to treat populations the cure rate at the end of treatment was 85.9% (55/64) for MBZ and 90.3% (56/62) for SNZ. Both analyzes showed there was not significant statistical difference between MBZ and SNZ treatment efficacy.

Both drugs were well tolerated, only mild, transient and self-limited side effects were reported and did not require discontinuation of treatment. A 3-day course of mebendazole seems to be as efficacious and safe for treatment of giardiasis as a single dose of secnidazole in adults.

Neuroepidemiology. 2011;37(3-4):153-9. Epub 2011 Oct 15.

The metabolic syndrome (MetS) and cognitive performance

Vieira JR, Elkind MS, Moon YP, Rundek T, Boden-Albala B, Paik MC, Sacco RL, Wright CB.

Source

Department of Neurology, College of Physicians and Surgeons, Columbia University, New York, NY, USA.

Abstract

BACKGROUND:

The metabolic syndrome (MetS) is a risk factor for diabetes, stroke, myocardial infarction, and increased mortality, and has been associated with cognition in some populations.

We hypothesized that MetS would be associated with lower Mini-Mental State Examination (MMSE) scores in a multi-ethnic population, and that MetS is a better predictor of cognition than its individual components or diabetes.

METHODS:

We conducted a cross-sectional analysis among 3,150 stroke-free participants. MetS was defined by the modified National Cholesterol Education Program guidelines-Adult Treatment Panel III (NCEP-ATPIII) criteria. Linear regression and polytomous logistic regression estimated the association between MMSE score and MetS, its individual components, diabetes, and inflammatory biomarkers.

RESULTS:

MetS was inversely associated with MMSE score (unadjusted β = -0.67; 95% CI -0.92, -0.41). Adjusting for potential confounders, MetS was associated with lower MMSE score (adjusted β = -0.24; 95% CI -0.47, -0.01), but its individual components and diabetes were not.

Those with MetS were more likely to have an MMSE score of <18 than a score of ≥ 24 (adjusted OR = 1.94; 95% CI 1.26, 3.01). There was an interaction between MetS and race-ethnicity, such that MetS was associated with lower MMSE score among non-Hispanic whites and Hispanics but not non-Hispanic blacks.

CONCLUSIONS:

MetS was associated with lower cognition in a multi-ethnic population. Further studies of the effect of MetS on cognition are warranted, and should account for demographic differences.

JANUARY 27, 2012

New Guideline on Vitamin D and Postmenopausal Health

Laurie Barclay, MD

A European Menopause and Andropause Society (EMAS) position statement on the role of vitamin D after menopause notes that the recommended daily allowance is 600 IU/day, or 800 IU/day for those 71 years of age or older. The new guidelines were published in the January issue of Maturitas.

"There is emerging evidence on the widespread tissue effects of vitamin D," write Faustino R. Pérez-López, MD, PhD, from the Department of Obstetrics and Gynecology, Universidad de Zaragoza, Spain, and colleagues. "Epidemiological and prospective studies have related vitamin D deficiency with not only osteoporosis but also cardiovascular disease, diabetes, cancer, infections and neurodegenerative disease. However the evidence is robust for skeletal but not nonskeletal outcomes where data from large prospective studies are lacking."

Based on a literature review and the consensus of expert opinion, the position statement panel concluded that the leading natural source of vitamin D is sunlight exposure stimulating synthesis in the skin. Dietary sources, which are not as significant as cutaneous synthesis, include animal-based foods such as fatty fish, eggs, and milk.

Measurement of serum 25-hydroxyvitamin D [25(OH) D] levels allows determination of vitamin D status, with optimal levels ranging from 30 to 90 ng/mL (75 - 225 nmol/L). However, different countries vary in their recommendations concerning optimal vitamin D levels. Factors affecting vitamin D levels include season of the year (lower in the winter), latitude, altitude, air pollution, skin pigmentation, use of sunscreens, and skin coverage by clothing.

Obesity; malabsorption syndromes; use of anticonvulsants, antiretrovirals, or various other medications, skin aging, little sun exposure, and living in residential care facilities have been associated with low serum 25(OH)D levels.

The recommended daily allowance of vitamin D is 600 IU/day, but this should increase to 800 IU/day in those patients at least 71 years of age. Postmenopausal women can generally achieve healthy levels of vitamin D though exposure without sunscreens to regular midday sunlight for 15 minutes, 3 to 4 times a week. Ingestion of vitamin D–fortified foods does not necessarily provide sufficient amounts.

When supplementation is needed, either vitamin D2 (ergocalciferol) or vitamin D3 (cholecalciferol) may be appropriate. Depending on the dose used and the presence of renal disease or other comorbidities, monitoring may be indicated.

Specific summary recommendations include the following:

- Clinicians should recognize that vitamin D deficiency and insufficiency are widespread, affecting up to 70% of European populations (including those living in sunny regions).
- Healthy postmenopausal women may achieve adequate serum concentrations of vitamin D through either sun exposure (15 minutes per day, 3 - 4 times a week) or supplementation with 800 to 1000 IU/day.
- To achieve adequate levels, women with low serum 25(OH)D may need doses ranging from 4000 to 10,000 IU/day.
- Specific tailored doses of vitamin D supplements are needed for women with morbid obesity, both before and after gastrointestinal bypass surgery, malabsorption syndromes, and/or hepatic or renal diseases.
- Adequate amounts of vitamin D and specific bone-conserving therapies are indicated for women with vitamin D deficiency, osteoporosis, and/or previous incidental fractures. If there are no associated risk factors for low serum vitamin D levels, doses should be from 800 to 1200 IU/day.

Hu Li Za Zhi. 2012 Feb;59(1):5-10.

Symptom experience… Adherence to therapeutic anti-hypertensive regimens

Chen SL, Tsai JC.

ABSTRACT

Symptoms are the most important factor leading patients to seek medical help from health professionals. However, symptoms not directly supported by physiological and pathological evidence are often classified as being of emotional or psychological origin. Symptoms reflect an individual's subjective experience of physical-psycho-social functions, perception or cognition. Prior to implementing symptom management strategies, nurses should clarify patient symptom experiences and the meaning of such to patients. Individuals naturally seek symptoms based on physician diagnoses. When experiencing uncomfortable physical symptoms, individuals seek to label symptoms and accept medical advice based on their personal illness perception. In light of such, non-adherence to treatment recommendations may reflect inconsistencies between medical advice and patient symptom or illness diagnosis perception. In this paper, the author addresses relationships among symptom experience, symptom/illness attributions and therapeutic regimen adherence. Results identify the significant role that symptom experience plays in adherence to therapeutic regimens in patients with hypertension and suggests recommended revisions to clinical education in order to reflect such

Self-Monitoring Not Helpful for Type 2 Diabetes

Lara C. Pullen, PhD

February 6, 2012 — Self-monitoring of blood glucose (SMBG) has very little effect on glycemic control in patients with type 2 diabetes who are not using insulin. In a review of data from 9 trials of SMBG involving 2324 participants, any effect on HbA1c levels was found to occur only in the first 6 months, during which time the HbA1c level decreased by 0.26% (95% confidence interval Data from 2 trials involving 493 participants showed that the effect of SMBG was no longer significant at 12 months follow-up, with a decrease in HbA1c levels of 0.1% (95% CI, -0.3 to 0.04).

Uriell L. Malanda, MD, and colleagues from the VU University Medical Center in Amsterdam reviewed 12 studies involving 3259 patients with diabetes who are not insulin-dependent. The results are published in the latest issue of the Cochrane Library.

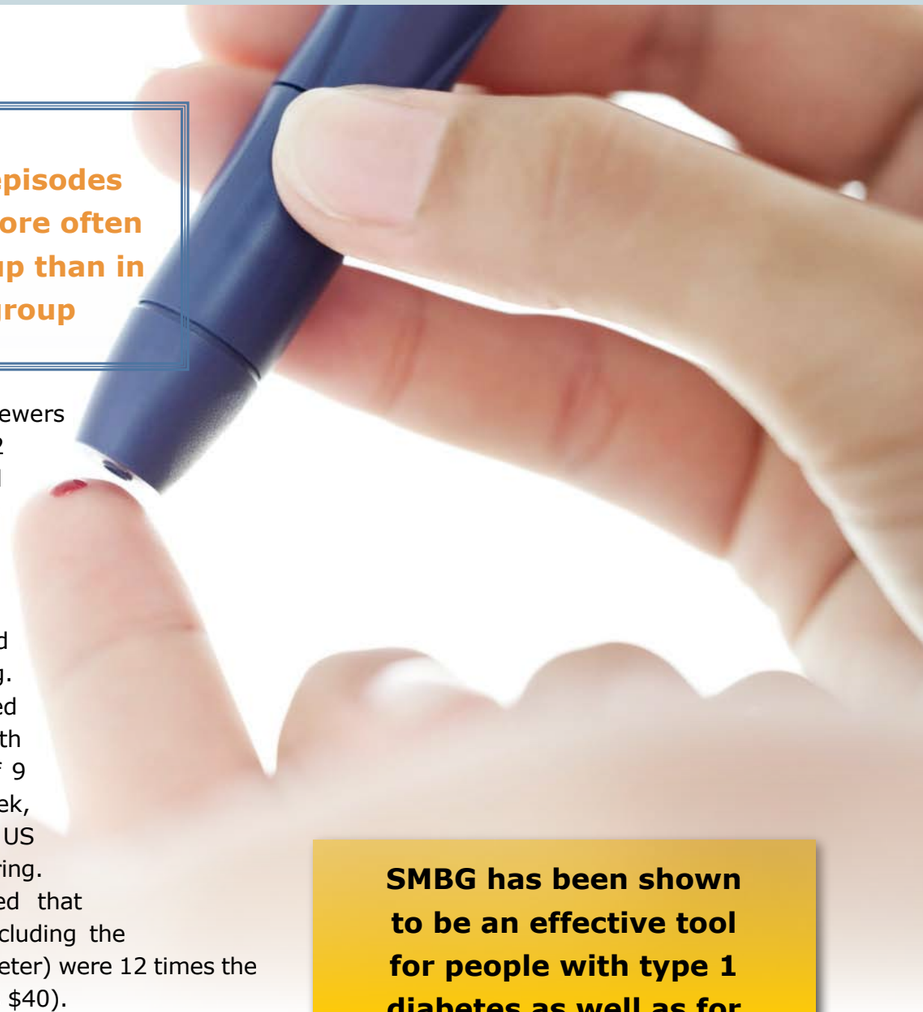
Self-monitoring of blood glucose (SMBG) has very little effect on glycemic control in patients with type 2 diabetes who are not using insulin

The study was supported by the EMGO Institute for Health and Care Research, the Netherlands. Dr. Malanda and several other authors report taking part "in an ongoing study on the topic of interest in this review."

"Regular self-monitoring of blood glucose in non-insulin-treated patients has minimal impact on glycemic control, has no impact on general well-being or quality of life, and is rather expensive," Dr. Malanda explained in a press release. "Consequently, it does not add to a clinically relevant long-term benefit."

Hypoglycemic episodes were reported more often in the SMBG group than in the control group in 4 of the studies that were reviewed. The authors explained this to be a result of patients using the SMBG device to confirm perceived hypoglycemic episodes.

In 9 of the trials that were reviewed, SMBG was compared with typical care without monitoring. One study compared SMBG with self-monitoring of urine glucose (SMUG). One study was a 3-armed trial comparing SMBG and SMUG with usual care. One study was a 3-armed trial comparing less intensive SMBG and more intensive SMBG with control



Hypoglycemic episodes were reported more often in the SMBG group than in the control group

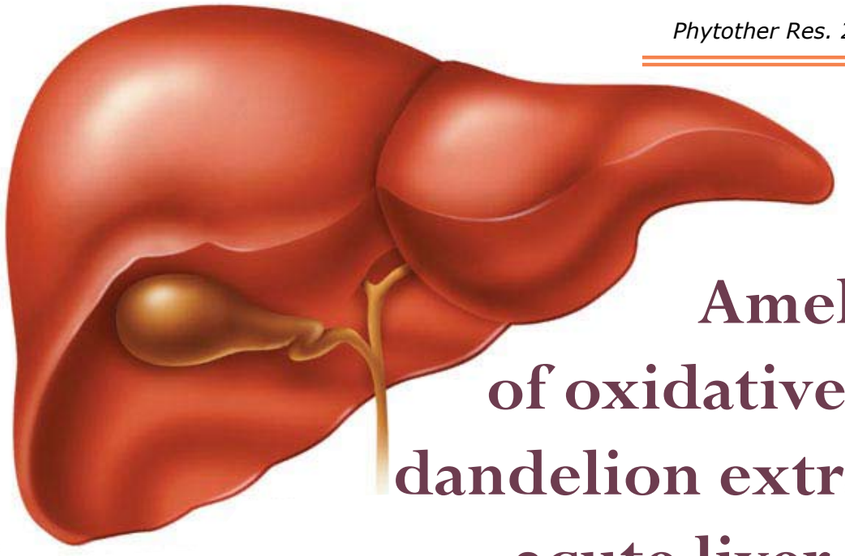
participants. The reviewers found that 7 of the 12 studies demonstrated a low risk of bias for most of the indicators.

Two of the trials reported costs of self-monitoring. One trial compared the cost of SMBG with SMUG on the basis of 9 measurements per week, using 1990 prices in US dollars for self-monitoring. The authors concluded that the cost of SMBG (including the cost of a reflectance meter) were 12 times the cost of SBUG ($481 vs $40).

The second trial reported on the full economical evaluation of the costs and effects of self-monitoring. The costs were €104 for the control group, €212 for the less-intensive self-monitoring group, and €203 for the more intensive self-monitoring group. The authors documented higher losses to follow-up in the more intensive self-monitoring group. They felt that this contributed to the difference in costs between the more intense and less intense self-monitoring groups.

SMBG has been shown to be an effective tool for people with type 1 diabetes as well as for those with type 2 diabetes who use insulin therapy. Patients use the glucose levels to adjust insulin doses. This systemic review suggests that patients with type 2 diabetes are not using SMBG to adjust their diet and lifestyle. The authors note that more research is needed to determine the effect of SMBG on hypoglycemia and complications from type 2 diabetes.

SMBG has been shown to be an effective tool for people with type 1 diabetes as well as for those with type 2 diabetes who use insulin therapy



Phytother Res. 2010 Sep;24(9):1347-53.

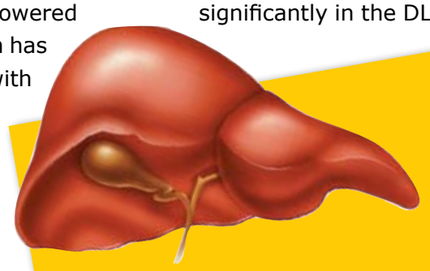
Park CM, Cha YS, Youn HJ, Cho CW, Song YS.

Amelioration of oxidative stress by dandelion extract against acute liver injury

Abstract

The protective effects of common dandelion leaf water extract (DLWE) were investigated by carbon tetrachloride (CCl4) induced hepatitis in Sprague-Dawley rats. The animals were divided into five groups: normal control, DLWE control, CCl4 control, and two DLWE groups (0.5 and 2 g/kg bw). After 1 week of administering corresponding vehicle or DLWE, a single dose of CCl4 (50% CCl4/olive oil; 0.5 mL/kg bw) was administered 24 h before killing in order to produce acute liver injury. The DLWE treatment significantly decreased CCl4-induced hepatic enzyme activities (AST, ALT and LDH) in a dose dependent manner. Also, the obstructed release of TG and cholesterol into the serum was repaired by DLWE administration.

Hepatic lipid peroxidation was elevated while the GSH content and antioxidative enzyme activities were reduced in the liver as a result of CCl4 administration, which were counteracted by DLWE administration. Furthermore, the hepatocytotoxic effects of CCl4 were confirmed by significantly elevated Fas and TNF-α mRNA expression levels, but DLWE down-regulated these expressions to the levels of the normal control. Highly up-regulated cytochrome P450 2E1 was also lowered significantly in the DLWE groups. These results indicate that Dandelion has a protective effect against hepatic damage with at least part of its effect being attributable to the attenuation of oxidative stress and inflammatory processes resulting from cytochrome P450 activation by CCl4.



Dandelion has a protective effect against hepatic damage

Prenatal micronutrient supplements cumulatively increase fetal growth.

Roberfroid D, Huybregts L, Lanou H, Habicht JP, Henry MC, Meda N, Kolsteren P.

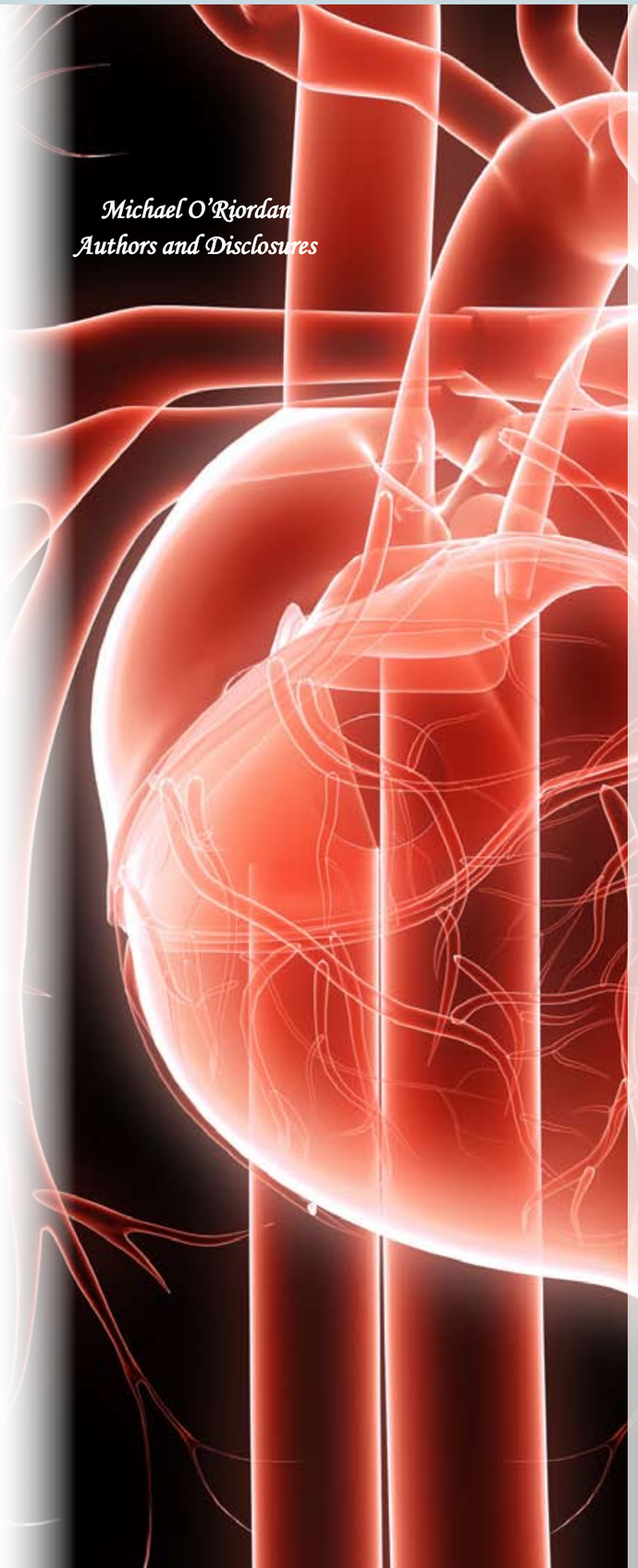
Abstract

Prenatal multiple micronutrients (UNIMMAP) improve fetal growth only moderately compared to iron and folic acid alone (IFA). Whether this is due to insufficient amounts of UNIMMAP or to IFA being in reality an active control is unknown. We assessed the association between cumulative micronutrient intake (CMI) and fetal growth by secondary analysis of a randomized controlled trial in Burkina Faso where tablet intake was directly observed. We applied 2-part residual regression models adjusted for main confounders. Among the 1056 single pregnancies included, the mean CMI (± SD) was 124 ± 54 tablets.

The odds of delivering a small-for-gestational-age baby was reduced by 21% [(95%CI: 5, 35); P = 0.013] for each additional tertile of CMI. The association between CMI and birth weight was positively modified by gestational age at enrollment (P-interaction = 0.001). Each unit of CMI was associated with a 1.6-g [(95%CI: 0.3, 3.1); P = 0.019] higher birth weight at a mean-centered gestational age at enrollment, with a higher gradient observed later in pregnancy. Maternal BMI at enrollment was also a positive modifying factor (P-interaction = 0.02), with no association of CMI with birth weight for low BMI. There was no evidence of an effect modification by group allocation; i.e., we observed the same change in birth weight per unit of CMI with either IFA or UNIMMAP. Yet UNIMMAP increased birth weight by 69 g [(95%CI: 58, 81); P < 0.001] relative to IFA. We found similar results for thoracic and cephalic circumferences

In conclusion, for both IFA and UNIMMAP, the effect on fetal growth is cumulative. The supplementation should therefore begin as early as possible in pregnancy, even if the growth increment per CMI is higher in late than in early pregnancy. Women with a low BMI should also receive extra energy.

Statins Reduce Cardiovascular Events and All-Cause Mortality in Women



January 30, 2012 (Boston, Massachusetts)— A large meta-analysis has shown that statins are as effective in women as in men for the reduction of cardiovascular outcomes and all-cause mortality, leaving investigators to conclude that statins should be used in all appropriate patients regardless of sex.

"There have been a large number of clinical trials looking at the benefits of statin use, but the ability for us to prove that the benefits extend to both men and women has been limited, in part because of numbers," lead investigator Dr William Kostis (Massachusetts General Hospital, Boston) told heartwire . "There have been studies that have shown benefits in men, and where they have shown a trend toward benefit in women they were unable to show a statistically significant difference. Because of this, we undertook the meta-analysis, and what we found was what we had hoped to find, and that was that the benefits of reducing cardiovascular outcomes and all-cause mortality extend to both men and women."

The meta-analysis, published in the February 7, 2012 issue of the Journal of the American College of Cardiology, included 18 clinical trials of statin therapy with clinical outcomes for men and women. The analysis included 141 235 subjects, including 40 275 women, from studies such as JUPITER, ALLHAT-LLT, ASCOT-LLA, Heart Protection Study, MEGA, PROVE-IT, and TNT, among others. Ten of the studies were secondary-prevention studies, and eight studies were designed as primary-prevention trials, although five of the primary-prevention studies did include a proportion of patients with cardiovascular disease.

In an editorial accompanying the study [2], Dr Lori Mosca (Columbia University Medical Center, New York) states that the finding of "no interaction by sex in this contemporary meta-analysis is concordant with prior meta-analyses that were limited by smaller numbers of women and suggests statin therapy has similar proportional benefits for men and women, regardless of the type of end point studied or the level of population risk."

Primary- and Secondary-Prevention Studies

In the meta-analysis, statin therapy significantly reduced the risk of cardiovascular events in women (odds ratio [OR] 0.81; 0.75-0.89) and in men (OR 0.77; 95% CI 0.71-0.83). The treatment effect in women was more pronounced in the secondary-prevention studies (OR 0.78; 95% CI 0.70-0.88), compared with the reduction in outcomes found in the primary-prevention studies (OR 0.85; 95% CI 0.75-0.98). The reduction in events was similar in studies that used placebo/usual care and low-dose statin therapy as the control arm.

Regarding all-cause mortality, the researchers report that treatment with statin therapy significantly reduced the risk of death in women by 10% in the primary- and secondary-prevention studies (95% CI 0.82-0.99) and by 13% when the primary-prevention studies were analyzed separately (95% CI 0.78-0.97). The effect of statin therapy on all-cause mortality in women enrolled in the secondary-prevention studies was not statistically significant, and there was only a trend toward a reduction in all-cause mortality in men enrolled in the primary-prevention studies.

When investigators stratified patients by expected mortality, they found that statin therapy resulted in a significant reduction in cardiovascular outcomes in patients at low, medium, and high risk.

"This is a very large meta-analysis and it gives us good evidence to show that the benefit of statin use extends to both men and women," said Kostis. "It even extends to people considered low risk. I think going forward, as there will continue to be other statin trials and new agents, we want to make sure that women and people from all demographics are represented in the population studies, because it will allow us to show that benefits extend to all subpopulations, and if there are differences to see what they are with regard to safety and efficacy."

The Institute of Medicine has recently called for more sex-specific reporting of data for safety and efficacy outcomes. In the meta-analysis by Kostis and colleagues, there were not enough data to evaluate the adverse side effects of statin therapy in women, as just two studies reported sex-specific adverse-outcomes data. Future sex-specific results in cardiovascular medicine trials are needed to assess absolute and relative benefits, adverse outcomes, and cost-effectiveness.

Good for the Goose . . .

In her editorial, Mosca points out that "only a handful" of primary-prevention studies were available for analysis, and four of these trials enrolled patients at low risk for cardiovascular events, making it difficult to provide much clarity surrounding the controversy of statin use in women. In addition, the meta-analysis focused on the relative reduction in risk and does not provide data on the absolute benefit of treatment.

If treatment decisions regarding statins are driven by the annual mortality risk of the patient in primary prevention, the absolute risk of cardiovascular disease and corresponding proportional reduction in risk from statin therapy are needed to make "informed clinical choices."

"Only then we will know with less uncertainty whether what is good for the gander is also good for the goose," writes Mosca.

Re-infection rate of Helicobacter pylori after eradication treatment

J Gastroenterol. 2012 Feb 17. [Epub ahead of print]

Take S, Mizuno M, Ishiki K, Imada T, Okuno T, Yoshida T, Yokota K, Oguma K, Kita M, Okada H, Yamamoto K.

BACKGROUND:

We previously reported that the reinfection rate with Helicobacter pylori in Japan was low despite a high prevalence of infection. In the present study, we extended our previous work to more accurately determine the reinfection rate.

METHODS:

We enrolled 1625 patients (219 women and 1406 men, mean age 50.8 years) who had received H. pylori eradication therapy. After documentation of eradication, bacterial culture and urea breath test were carried out yearly. H. pylori strains were analyzed by using random amplification of polymorphic DNA fingerprinting.

RESULTS:

A total of 1609 patients were followed for up to 12.5 years (mean 4.7 years); H. pylori became re-positive in 26 patients. In 13 of the 26 patients, H. pylori became positive at the first-year follow up. Stored H. pylori isolates were available for analysis from ten of the 13 patients; four of the isolates were genetically different from the initial strain, but the other six were identical to the initial strain. In the other 13 patients, H. pylori became positive at later follow up (mean 4.8 years; range 1.8-8.0 years). In all of the four of these patients whose isolates could be analyzed, the H. pylori strains were different from the initial strain. Assuming that reinfection occurred in the four patients positive for different strains of H. pylori at the first-year follow up and in the 13 positive at later follow up, the reinfection rate was 0.22% per year.

CONCLUSIONS:

When probable recrudescence (H. pylori positivity with identical strains) was excluded, the reinfection rate of H. pylori in this Japanese population was very low, but we note that reinfection can occur over many years.