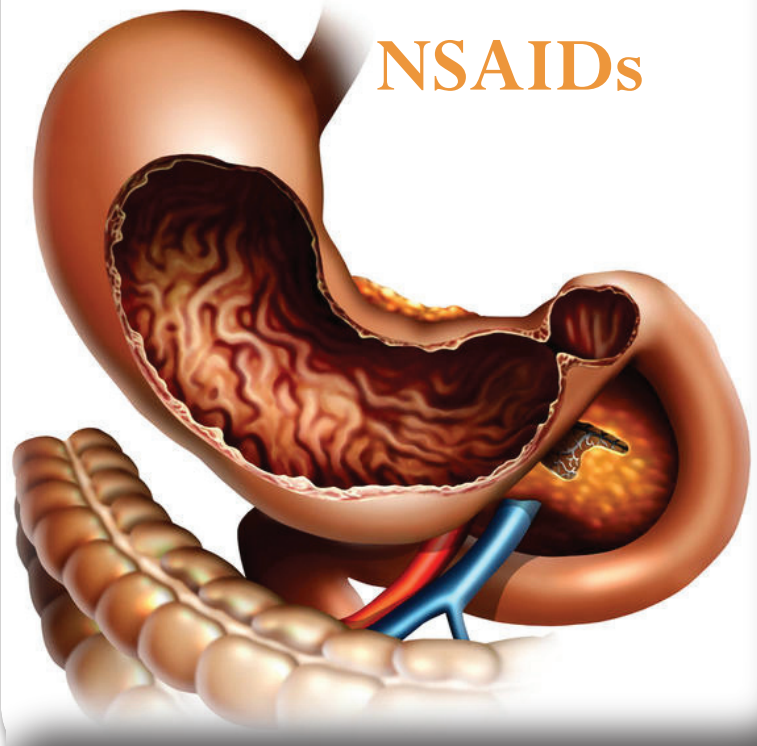
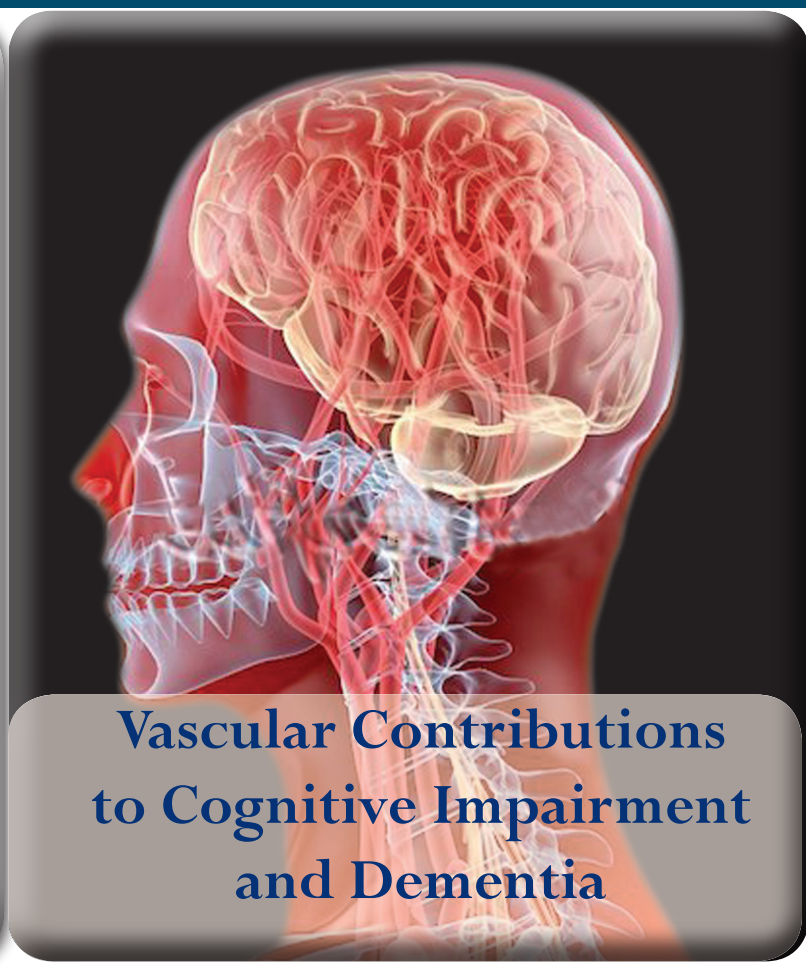
MEDICAL UPDATES

EGYPHAR

Issue No.:13 April 2013

H. Pylori Infection and NSAIDs





Vascular Contributions to Cognitive Impairment and Dementia

Losartan +HCTZ ... Increased efficacy and tolerability in patients with uncontrolled hypertension

Egyphar Medical Updates

American Stroke Association
A Division of American Heart Association

Stroke published online July 21, 2011

Vascular Contributions to Cognitive Impairment and Dementia

Background

Purpose—This scientific statement provides an overview of the evidence on vascular contributions to cognitive impairment and dementia. Vascular contributions to cognitive impairment and dementia of later life are common. Definitions of vascular cognitive impairment (VCI), neuropathology, basic science and pathophysiological aspects, role of neuroimaging and vascular and other associated risk factors, and potential opportunities for prevention and treatment are reviewed. This statement serves as an overall guide for practitioners to gain a better understanding of VCI and dementia, prevention, and treatment.

Methods

Writing group members were nominated by the writing group co-chairs on the basis of their previous work in relevant topic areas and were approved by the American Heart Association Stroke Council Scientific Statement Oversight Committee, the Council on Epidemiology and Prevention, and the Manuscript Oversight Committee. The writing group used systematic literature reviews (primarily covering publications from 1990 to May 1, 2010), previously published guidelines, personal files, and expert opinion to summarize existing evidence, indicate gaps in current knowledge, and, when appropriate, formulate recommendations using standard American Heart Association criteria. All members of the writing group had the opportunity to comment on the recommendations and approved the final version of this document. After peer review by the American Heart Association, as well as review by the Stroke Council leadership, Council on Epidemiology and Prevention Council, and Scientific Statements Oversight Committee, the statement was approved by the American Heart Association Science Advisory and Coordinating Committee.

Results

The construct of VCI has been introduced to capture the entire spectrum of cognitive disorders associated with all forms of cerebral vascular brain injury—not solely stroke—ranging from mild cognitive impairment through fully developed dementia. Dysfunction of the neurovascular unit and mechanisms regulating cerebral blood flow are likely to be important components of the pathophysiological processes underlying VCI. Cerebral amyloid angiopathy is emerging as an important marker of risk for Alzheimer disease, microinfarction, microhemorrhage and macrohemorrhage of the brain, and VCI. The neuropathology of cognitive impairment in later life is often a mixture of Alzheimer disease and microvascular brain damage, which may overlap and synergize to heighten the risk of cognitive impairment. In this regard, magnetic resonance imaging and other neuroimaging techniques play an important role in the definition and detection

of VCI and provide evidence that subcortical forms of VCI with white matter hyperintensities and small deep infarcts are common. In many cases, risk markers for VCI are the same as traditional risk factors for stroke. These risks may include but are not limited to atrial fibrillation, hypertension, diabetes mellitus, and hypercholesterolemia.

Furthermore, these same vascular risk factors may be risk markers for Alzheimer disease. Carotid intimal-medial thickness and arterial stiffness are emerging as markers of arterial aging and may serve as risk markers for VCI. Currently, no specific treatments for VCI have been approved by the US Food and Drug Administration. However, detection and control of the traditional risk factors for stroke and cardiovascular disease may be effective in the prevention of VCI, even in older people.

Conclusions

Vascular contributions to cognitive impairment and dementia are important. Understanding of VCI has evolved substantially in recent years, based on preclinical, neuropathologic, neuroimaging, physiological, and epidemiological studies. Transdisciplinary, translational, and transactional approaches are recommended to further our understanding of this entity and to better characterize its neuropsychological profile. There is a need for prospective, quantitative, clinical-pathological-neuroimaging studies to improve knowledge of the pathological basis of neuroimaging change and the complex interplay between vascular and Alzheimer disease pathologies in the evolution of clinical VCI and Alzheimer disease. Long-term vascular risk marker interventional studies beginning as early as midlife may be required to prevent or postpone the onset of VCI and Alzheimer disease. Studies of intensive reduction of vascular risk factors in high-risk groups are another important avenue of research.

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Gene. 2013 Feb 15.

Insulin resistance in Egyptian obese patients

Medical Biochemistry Department, Faculty of Medicine, Zagazig University, Zagazig, Egypt.

El-Shal AS, Pasha HF, Rashad NM.

Abstract

BACKGROUND:

Obesity associated insulin resistance is a major risk factor for type 2 diabetes mellitus. Resistin is recently reported to provide a link between obesity, insulin resistance and type 2 diabetes mellitus. We aimed to investigate the possible associations of resistin gene (RETN) polymorphisms with obesity, and to detect whether these polymorphisms are associated with glucose intolerance and type 2 diabetes mellitus in obese patients.

METHODS:

One hundred and forty-five Egyptian obese patients with or without glucose intolerance and 155 unrelated healthy controls were enrolled in this study. Polymorphisms of RETN +299G>A and RETN -420 C>G gene were detected by polymerase chain reaction - restriction fragment length polymorphism (PCR-RFLP). Serum resistin was measured by ELISA.

RESULTS:

RETN +299 AA and RETN -420 GG genotypes were significantly associated with obesity in Egyptian population. Moreover, the mutant alleles or genotypes of both examined polymorphisms were associated with impaired glucose tolerance and diabetes mellitus compared to normal glucose tolerant obese patients. Furthermore, our results revealed elevated waist/hip ratio, BMI, blood pressure, fasting blood glucose level, HOMA-IR, triglycerides, total cholesterol, resistin level, and decreased HDL cholesterol level in homozygote mutant genotypes carriers of both RETN polymorphisms among obese patients.

CONCLUSION:

Resistin gene polymorphisms may play an important role in pathogenesis and susceptibility to obesity, impaired glucose tolerance, and type 2 diabetes mellitus in Egyptian population.

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Clin Nutr. 2013 Apr;

Soft drink, 100% fruit juice, and vegetable juice intakes and risk of diabetes mellitus.

Osaka UniversityJapan;
Faculty of Medicine, Menia University, Menia, Egypt.

Eshak ES, Iso H, Mizoue T, Inoue M, Noda M, Tsugane S.

Abstract

BACKGROUND & AIMS:

Japan has experienced a jump in the diabetes prevalence rates. We want to examine whether increased intake of soft drink and juices have contributed to this jump.

METHODS:

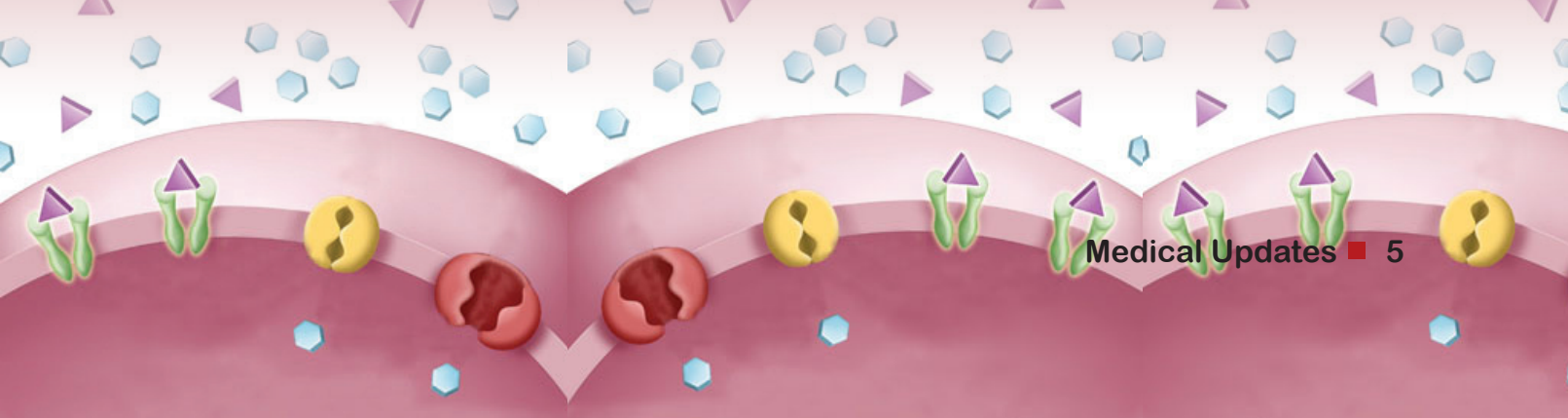
Participants were 27,585 Japanese men and women aged 40-59 years who had no prior history of diabetes. Intakes of soft drink, 100% fruit juice and vegetable juice were measured by a validated food frequency questionnaire. Odds ratios of type 2 diabetes over 5 and 10 years were estimated by using logistic regression.

RESULTS:

A total of 484 men and 340 women reported newly diagnosed diabetes during10 years. High soft drink intake was associated with increased risk of type 2 diabetes in women but not men; odds ratio (95% CI) for women with almost daily consumption versus non-consumers was 2.10 (1.23-3.59; P-trend = 0.004) and 1.79 (1.11-2.89; P-trend = 0.01) at 5 and 10 years, respectively. The association was evident in overweight, highly educated and premenopausal women, and women with blue collar job. Intakes of 100% fruit juice and vegetable juice were not associated with risk of type 2 diabetes for either gender (P-trend >0.05).

CONCLUSIONS:

Soft drink but not pure juices consumption was associated with increased risk of type 2 diabetes in Japanese women.



Heart Disease and C-Reactive Protein (CRP) Testing

C-reactive protein -- or CRP -- appears to be correlated to heart disease risk. Inflammation (swelling) of the arteries has been linked to an increased risk of heart disease, heart attack, stroke, and peripheral arterial disease.

Doctors can test your blood for CRP. The body produces CRP during the general process of inflammation. Therefore, CRP is a "marker" for inflammation, meaning its presence indicates an increased state of inflammation in the body.

C-Reactive Protein and Heart Disease Risk

In studies involving large numbers of patients, CRP levels seem to be correlated with levels of heart disease risk. In fact, CRP seems to predict cardiovascular risk at least as well as cholesterol levels do.

Data from the Physicians Health Study, a clinical trial involving 18,000 apparently healthy doctors, found that elevated levels of CRP were associated with a threefold increase in the risk of heart attack.

In the Harvard Women's Health Study, results of the CRP test were more accurate than cholesterol levels in predicting heart problems. Twelve different markers of inflammation were studied in healthy, postmenopausal women.

After three years, CRP was the strongest predictor of risk. Women in the group with the highest CRP levels were more than four times as likely to have died from coronary disease, or to have suffered a nonfatal heart attack or stroke compared to those with the lowest levels. This group was also more likely to have required a cardiac procedure such as angioplasty (a procedure that opens clogged arteries with the use of a flexible tube) or bypass surgery than women in the group with the lowest levels.

How Is C-Reactive protein Measured?

CRP is measured with a simple blood test, which can be done at the same time your cholesterol is checked. One such test is the high-sensitivity C-reactive protein (hs-CRP, also called ultra-sensitive CRP or us-CRP) test.

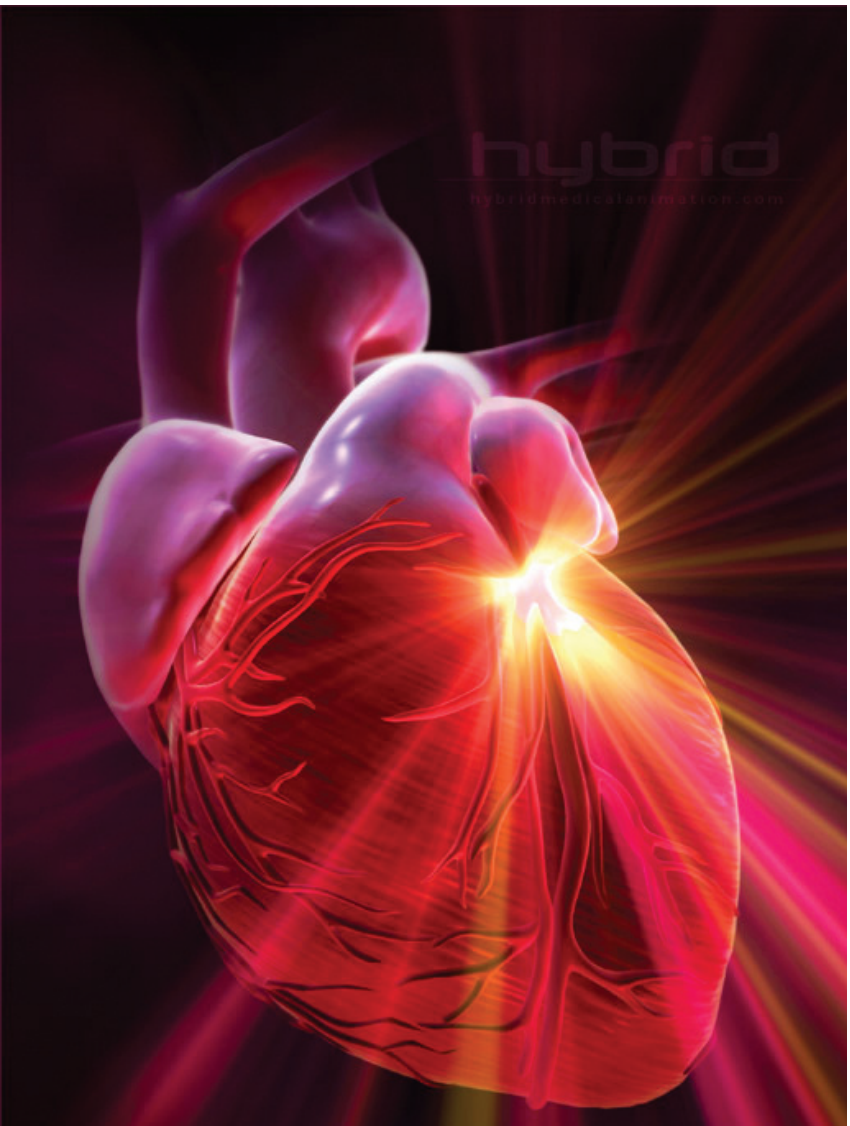
Heart disease risk is determined based on your test results.

CRP	Risk for Cardiovascular Disease
Less than 1.0 mg/L	Low
1.0-2.9 mg/L	Intermediate
Greater than 3.0 mg/L	High

It>s important to note that inflammation due to other conditions, such as an infection, illness, or a serious flare-up of arthritis, can raise CRP levels. Before getting the CRP test, tell your doctor what other medical conditions you have.

Should I Have My C-Reactive Protein Level Tested?

The American Heart Association (AHA) states hs-CRP may be useful in evaluating those at moderate risk for heart disease and determining whether or not more intensive treatment is warranted. Those at high risk should be treated aggressively regardless of their hs-CRP level.



The AHA does not recommend hs-CRP testing as routine screening for people who are not at high risk for heart disease.

Having more of the following risk factors increases your risk of heart disease.

- A previous heart attack or stroke.
- A family history of heart disease.
- Elevated total and LDL cholesterol levels.
- Low HDL level.
- High blood pressure.
- Being male or a post-menopausal woman.
- Cigarette smoker.
- Uncontrolled diabetes or high blood pressure.
- Physical inactivity.
- Obesity or being overweight.

In addition, research suggests that it may be beneficial to have your CRP level checked if you are going to undergo a heart treatment such as angioplasty. Studies show that higher levels may increase the risk that the artery will close after it is opened by balloon angioplasty. Ask your doctor for specific guidelines regarding your situation.

World J Gastroenterol. 2013 Mar

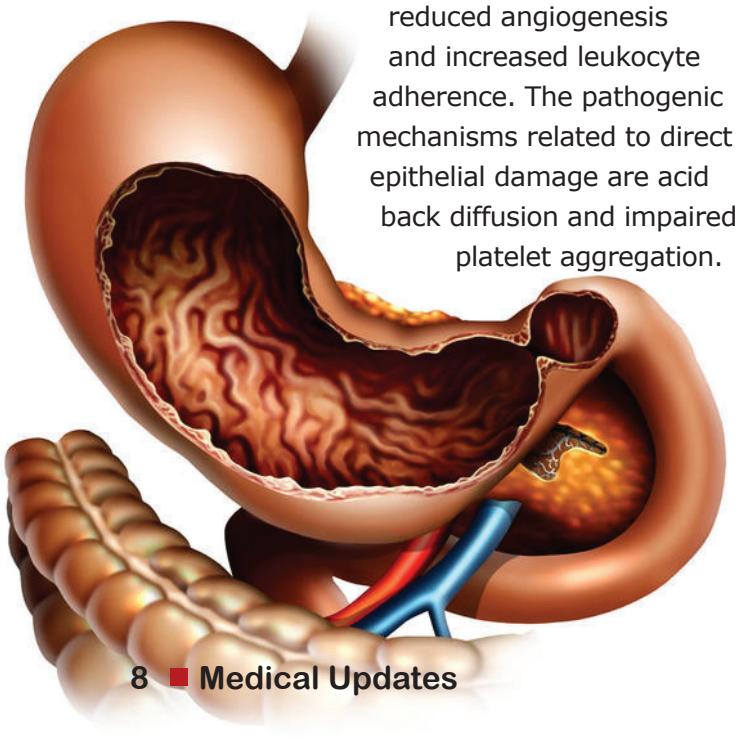
H. Pylori infection and NSAIDs

Iwamoto J, Saito Y, Honda A, Matsuzaki Y.

Department of Gastroenterology, Tokyo Medical University Japan.

Abstract

Low-dose aspirin (LDA) is clinically used for the prevention of cardiovascular and cerebrovascular events with the advent of an aging society. On the other hand, a very low dose of aspirin (10 mg daily) decreases the gastric mucosal prostaglandin levels and causes significant gastric mucosal damage. The incidence of LDA-induced gastrointestinal mucosal injury and bleeding has increased. It has been noticed that the incidence of LDA-induced gastrointestinal hemorrhage has increased more than that of non-aspirin non-steroidal anti-inflammatory drug (NSAID)-induced lesions. The pathogenesis related to inhibition of cyclooxygenase (COX)-1 includes reduced mucosal flow, reduced mucus and bicarbonate secretion, and impaired platelet aggregation. The pathogenesis related to inhibition of COX-2 involves reduced angiogenesis and increased leukocyte adherence. The pathogenic mechanisms related to direct epithelial damage are acid back diffusion and impaired platelet aggregation.



The factors associated with an increased risk of upper gastrointestinal (GI) complications in subjects taking LDA are aspirin dose :

(I) History of ulcer or upper GI bleeding

(II) Age > 70 years

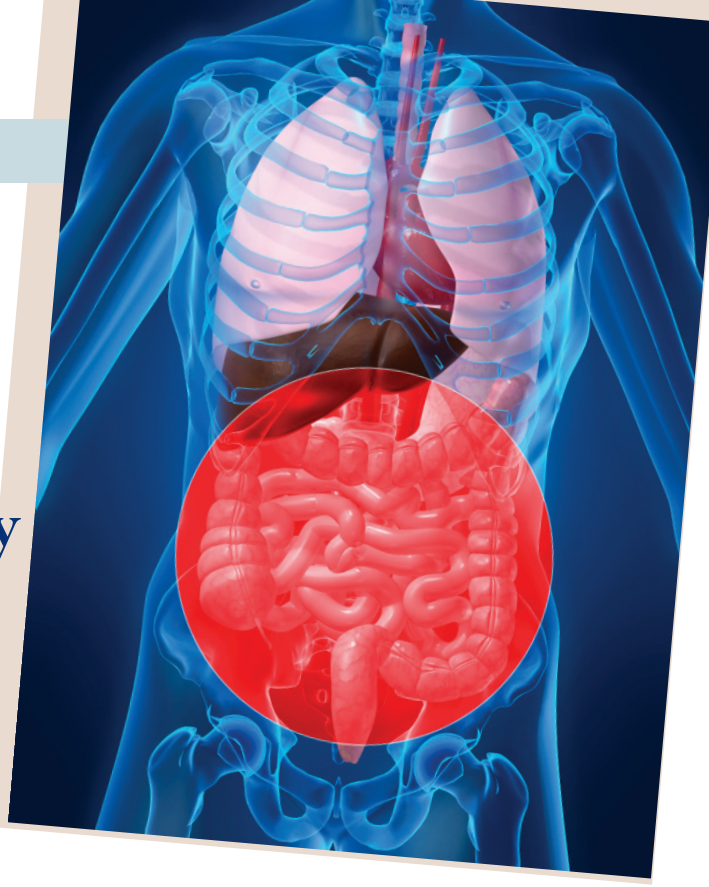
(III) Concomitant use of non-aspirin NSAIDs including COX-2-selective NSAIDs, and

(IV) Helicobacter pylori (H. pylori) infection.

Moreover, no significant differences have been found between ulcer and non-ulcer groups in the frequency and severity of symptoms such as nausea, acid regurgitation, heartburn, and bloating. It has been shown that the ratios of ulcers located in the body, fundus and cardia are significantly higher in bleeding patients than the ratio of gastroduodenal ulcers in patients taking LDA. Proton pump inhibitors reduce the risk of developing gastric and duodenal ulcers. In contrast to NSAID-induced gastrointestinal ulcers, a well-tolerated histamine H2-receptor antagonist is reportedly effective in prevention of LDA-induced gastrointestinal ulcers. The eradication of H. pylori is equivalent to treatment with omeprazole in preventing recurrent bleeding. Continuous aspirin therapy for patients with gastrointestinal bleeding may increase the risk of recurrent bleeding but potentially reduces the mortality rates, as stopping aspirin therapy is associated with higher mortality rates. It is very important to prevent LDA-induced gastroduodenal ulcer complications including bleeding, and every effort should be exercised to prevent the bleeding complications.

Aliment Pharmacol Ther. 2013 Apr .

National rates of Helicobacter pylori recurrence are significantly and inversely correlated with human development index.



Yan TL, Hu QD, Zhang Q, Li YM, Liang TB.

Department of Gastroenterology, College of Medicine, Zhejiang University, China.

Abstract

BACKGROUND:

Helicobacter pylori infection is a worldwide threat to human health with recurrence rates that vary widely. The precise correlation between H. pylori recurrence and socioeconomic development has not been determined.

AIM:

To determine H. pylori recurrence rates after successful eradication and their association with socioeconomic development metrics.

METHODS:

Bibliographical searches were performed in the MEDLINE database. We reviewed all results, filtered by inclusion criteria, extracted primary results to calculate H. pylori recurrence rates and calculated national Human Development Index (HDI) values for the periods during which the studies were conducted.

RESULTS:

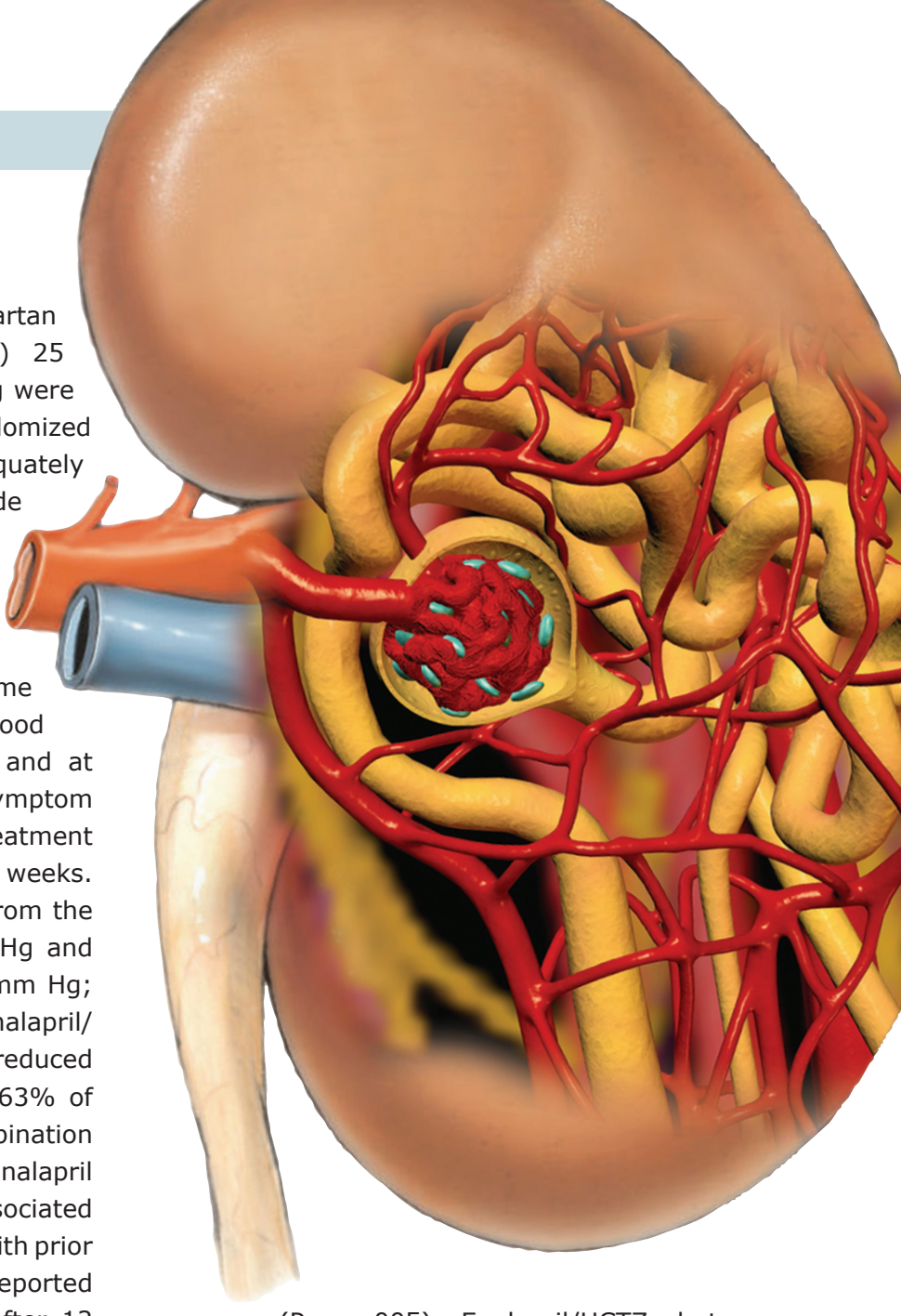
One thousand two hundred and twenty six cases of H. pylori recurrence in 77 eligible studies were observed in 43 525.1 follow-up patient-years after successful eradication therapy, giving a recurrence rate of 2.82 ± 1.16% per patient-year (weighted mean ± 95% confidence interval). H. pylori recurrence rate was inversely correlated with national HDI on linear (r = -0.633) and weighted least square (r = -0.546) regression analysis. Countries with very high HDI had a mean recurrence rate significantly lower than that of high, medium and low HDI countries (P < 0.01, 0.001, and 0.001, respectively).

CONCLUSIONS:

Less-developed areas, as measured by HDI, are more likely to have high H. pylori recurrence rates. A different approach to follow-up after H. pylori eradication is needed in developing countries where reinfection is highly prevalent, paying special attention to sources of reinfection and high-risk groups.

Naidoo DP, Sareli P, et al
King Edward Hospital, Durban, South Africa.

Losartan + HCTZ ... Increased efficacy and tolerability in patients with uncontrolled hypertension



Abstract

The efficacy and tolerability of losartan 100 mg/hydrochlorothiazide (HCTZ) 25 mg and enalapril 10 mg/HCTZ 25 mg were compared in a double-blind, randomized trial in hypertensive patients inadequately controlled and experiencing side effects on prior therapy. Patients with moderate or severe hypertension, currently treated with at least two single-agent drugs (excluding angiotensin-converting enzyme inhibitors), with a sitting diastolic blood pressure (DBP) above 90 mm Hg, and at least one undesirable drug-related symptom were randomized to once-daily treatment with one of the combinations for 12 weeks. Losartan/HCTZ lowered sitting DBP from the prior therapy baseline by 13.7 mm Hg and sitting systolic blood pressure 19.3 mm Hg; similar reductions occurred with enalapril/HCTZ. Trough sitting DBP was reduced to normal levels (< 90 mm Hg) in 63% of patients switched to the losartan combination and in 58% of those treated with the enalapril combination. Each combination was associated with improved tolerability compared with prior therapy, although fewer patients reported each of 24 undesirable symptoms after 12 weeks of losartan/HCTZ. The improvement from prior therapy in the occurrence of cough was significantly greater with losartan/HCTZ (P = .005). Enalapril/HCTZ, but not losartan/HCTZ, increased serum uric acid levels at week 12. In conclusion, the combination of losartan 100 mg/HCTZ 25 mg offers a beneficial therapeutic option for patients with a history of moderate to severe hypertension whose blood pressure is not adequately controlled or who exhibit side effects while on two or more single-agent antihypertensive drugs. In this population, The switch from prior antihypertensive therapies to once daily losartan 100 mg/HCTZ 25 mg improves blood pressure control and reduces side effects.

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