Abstracts of Articles Authored or Coauthored by Permanente Physicians

From Georgia

The relationship of cardiovascular risk factors to microalbuminuria in older adults with or without diabetes mellitus or hypertension: the cardiovascular health study.

BACKGROUND: Microalbuminuria is a risk factor for coronary heart disease (CHD). It occurs most commonly in the settings of diabetes and hypertension. The mechanisms by which it increases CHD risk are uncertain.

METHODS: We examined the cross-sectional association of microalbuminuria with a broad range of CHD risk factors in three groups of adults aged 65 years or older with and without microalbuminuria: those with 1) no diabetes or hypertension (n = 1098), 2) hypertension only (n = 1450), and 3) diabetes with or without hypertension (n = 465).

RESULTS: Three factors were related to microalbuminuria in all three groups: age, elevated systolic blood pressure, and markers of systemic inflammation. In patients with neither diabetes nor hypertension, increasing C-reactive protein levels were associated with microalbuminuria (odds ratio per 1-mg/L increase, 1.46; 95% confidence interval [CI], 1.15 to 1.84). Among those with diabetes, an increase in white blood cell (WBC) count was associated with microalbuminuria (odds ratio per 1000-cell/mL increase, 1.83; 95% CI, 1.04 to 3.23) and fibrinogen level (odds ratio per 10-mg/dL increase, 1.02; 95% CI, 1.00 to 1.05) were significantly associated with microalbuminuria. In all three groups, prevalency CHD was related to an elevated WBC count. In none of the three groups was brachial artery reactivity to ischemia, an in vivo marker of endothelial function, related to microalbuminuria.

CONCLUSION: Microalbuminuria is associated with age, systolic blood pressure, and markers of inflammation. These associations reflect potential mechanisms by which microalbuminuria is related to CHD risk.

CLINICAL IMPLICATION: In this study, we show that coronary heart disease (CHD) and microalbuminuria share three common factors—elevated systolic blood pressure, advanced age, and the presence of increased levels of inflammatory markers. These associations—whether in the presence or absence of diabetes or hypertension—provide a mechanism to explain why the exudation of a small amount of protein in the urine is associated with an increased risk of CHD. –JB

From Southern California

The relationship of asthma medication use to perinatal outcomes.

BACKGROUND: Maternal asthma has been reported to increase the risk of preeclampsia, preterm deliveries, and lower-birth-weight infants, but the mechanisms of this effect are not defined.

OBJECTIVE: We sought to evaluate the relationship between the use of contemporary asthma medications and adverse perinatal outcomes.

METHODS: Asthmatic patients were recruited from the 16 centers of the National Institute of Child Health and Human Development Maternal Fetal Medicine Units Network from December 1994 through February 2000. Gestational medication use was determined on the basis of patient history at enrollment and at monthly visits during pregnancy. Perinatal data were obtained at postpartum chart reviews. Perinatal outcome variables included gestational hypertension, preterm births, low-birth-weight infants, small-for-gestational-age infants, and major malformations.

RESULTS: The final cohort included 2123 asthmatic participants. No significant relationships were found between the use of inhaled beta-agonists (n = 1828), inhaled corticosteroids (n = 722), or theophylline (n = 273) and adverse perinatal outcomes. After adjusting for demographic and asthma severity covariates, oral corticosteroid use was significantly associated with both preterm birth at less than 37 weeks’ gestation (odds ratio, 1.54; 95% CI, 1.02-2.33) and low birth weight of less than 2500 g (odds ratio, 1.80; 95% CI, 1.13-2.88).

CONCLUSIONS: Use of inhaled beta-agonists, inhaled steroids, and theophylline do not appear to increase perinatal risks in pregnant asthmatic women. The mechanism of the association between maternal oral corticosteroid use and prematurity remains to be determined.
From Georgia
The association of fasting glucose levels with congestive heart failure in diabetic adults > or =65 years: the Cardiovascular Health Study.

OBJECTIVES: The purpose of this study was to determine if fasting glucose levels are an independent risk factor for congestive heart failure (CHF) in elderly individuals with diabetes mellitus (DM) with or without coronary heart disease (CHD).

BACKGROUND: Diabetes mellitus and CHF frequently coexist in the elderly. It is not clear whether fasting glucose levels in the setting of DM are a risk factor for incident CHF in the elderly.

METHODS: A cohort of 829 diabetic participants, age > or =65 years, without prevalent CHF, was followed for five to eight years. The Cox proportional hazards modeling was used to determine the risk of CHF by fasting glucose levels. The cohort was categorized by the presence or absence of prevalent CHD.

RESULTS: For a one standard deviation (60.6 mg/dl) increase in fasting glucose, the adjusted hazard ratios for incident CHF among participants without CHD at baseline, with or without an incident myocardial infarction (MI) or CHD event on follow-up, was 1.41 (95% confidence interval 1.24 to 1.61; p < 0.0001). Among those with prevalent CHD at baseline, with or without another incident MI or CHD event on follow-up, the corresponding adjusted hazard ratio was 1.27 (95% confidence interval 1.02 to 1.58; p < 0.05).

CONCLUSIONS: Among older adults with DM, elevated fasting glucose levels are a risk factor for incident CHF. The relationship of fasting glucose to CHF differs somewhat by the presence or absence of prevalent CHD.

Reprinted from the Journal of the American College of Cardiology, 43, Barzilay JJ, Kronmal RA, Gottlieber JS, Smith NL, Burke GL, Tracy R, Savage PJ, Carlson M. The association of fasting glucose levels with congestive heart failure in diabetic adults > or =65 years: the Cardiovascular Health Study. 2236-41. Copyright 2004, with permission from the American College of Cardiology Foundation.

From Southern California
Irritable bowel syndrome and surgery: a multivariable analysis.
Longstreth GF, Yee JF. Gastroenterology 2004 Jun;126(7):1665-73.

BACKGROUND AND AIMS: Patients with irritable bowel syndrome (IBS) have high surgical rates. We investigated the demographic and medical factors independently associated with surgical histories of health examinees.

METHODS: We applied multiple stepwise logistic regression analysis to self-completed questionnaire data from 89,008 examinees, assessing six surgeries as outcomes. We assessed questionnaire/physician record agreement of physician-diagnosed IBS and surgical history on 201 randomly selected examinees with ≥3 years of records.

RESULTS: Questionnaire/record agreement for IBS and surgery was 83.6% (kappa = 0.68) and 95.5-100.0% (kappa = 0.82-1), respectively. IBS was reported by 4587 examinees (5.2%) (1382 men [3.0%] and 3205 women [7.5%]). Subjects with and without IBS, respectively, reported the following surgical procedures: cholecystectomy, 569 (12.4%) versus 3428 (4.1%), p < 0.0001; appendectomy, 967 (21.1%) versus 9906 (11.7%), p < 0.0001; hysterectomy, 1063 (33.2%) versus 6751 (17.0%), p < 0.0001; back surgery, 201 (4.4%) versus 2436 (2.9%), p < 0.0001; coronary artery surgery, 127 (2.8%) versus 2033 (2.4%), p > 0.05; peptic ulcer surgery, 22 (0.5%) versus 277 (0.3%), p > 0.05. Among independent surgery associations, IBS was associated with hysterectomy (adjusted odds ratio [OR], 2.09; 95% confidence interval [CI], 1.89-2.31; p < 0.0001), appendectomy (OR, 1.45; 95% CI, 1.33-1.56; p < 0.0001), cholecystectomy (OR, 1.70; 95% CI, 1.55-1.87; p < 0.0001), and back surgery (OR, 1.22; 95% CI, 1.05-1.43; p = 0.0084).

CONCLUSIONS: Health examinees with physician-diagnosed IBS report rates of cholecystectomy three-fold higher, appendectomy and hysterectomy two-fold higher, and back surgery 50% higher than examinees without IBS. IBS is independently associated with these surgical procedures.

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From The Northwest
An evaluation of one-on-one advanced proficiency training in clinicians’ use of computer information systems.

OBJECTIVE: We examined the effectiveness of a one-on-one training strategy for advanced proficiency in computer information systems (CIS) by clinicians in a large health maintenance organization (HMO). Specifically, this
The Possibility
To become aware of the possibility of the search is to be onto something.
— Walker Percy, 1916-1990, American author