

Clinical Briefs in *Primary Care* ?

The essential monthly primary care update

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Continuing Screening Mammography in Women Aged 70-79 Years

Source: Kerlikowske K, et al. *JAMA* 1999;282:2156-2163.

There has been no prospective, randomized, controlled trial that proves benefit for screening mammography (SM) in women older than age 70. In fact, pooled data from women older than 70 who had undergone SM in Sweden showed no reduction in breast cancer mortality. Numerous factors affect women of this age group, which have bearing upon trial analysis: 1) older women have a shorter life expectancy, reducing screening benefits; 2) women with low bone mineral density (BMD) have a demonstrated lower incidence of breast cancer, and this favorable proclivity can be easily determined; 3) ductal carcinoma in situ (DCIS) increases with age and among screened populations, but it does not appear to affect overall mortality; 4) it appears likely that older women will place higher value on present health status than future health status, which likely affects their therapeutic decision processes.

To address such issues, Kerlikowske and colleagues used a decision analysis comparing women who continue screening after age 69 vs. those who do not based upon a lower BMD obtained at age 65.

The screening of all women until age 79 was found to save 0.3 days of life per woman, compared with a strategy of checking BMD and deferring screening for women with low BMD. Using BMD to assess breast

cancer risk at age 65 prior to screening mammography is more cost effective than screening all women through age 79. ■

Fecal and Oral Shedding of *H. pylori*

Source: Parsonnet J, et al. *JAMA* 1999;282:2240-2245.

Several important unresolved questions about *Helicobacter pylori*, the causative agent of almost all non-NSAID-related ulcers and a likely cause of gastric cancer, remain unanswered. The path by which *H. pylori* leaves a host to enter the environment, the environmental location, method of human acquisition, and individual susceptibility to this organism are uncertain. This study was directed to learn, by using polymerase chain reaction (PCR) testing, the frequency of *H. pylori* in saliva, stool, and vomitus of infected volunteers. Immunomagnetic separation (IMS)-PCR was chosen as the detection method because of its superior ability to identify live organisms.

After sodium-phosphate-induced catharsis, ipecac-induced emesis, and volitional saliva expectoration, *H. pylori* detection by IMS-PCR was performed (n = 16).

Stool culture obtained prior to catharsis was culture-negative in all 16 patients, but positive in 5/16 using IMS-PCR. Post-cathartic stools were *H. pylori*-positive in 11/16 subjects by IMS-PCR, but only 50% of specimens were culture-positive. All vomitus samples from infected persons were culture-positive as well as IMS-PCR-positive. Saliva was culture-positive in only 18.8% of subjects but IMS-PCR-positive in 43.8%.

Despite the ready retrieval of *H. pylori*

from saliva, there is little evidence of oral-oral transmission (e.g., the *H. pylori* strain present in married couples is rarely concordant and, thus far, studies of treated patients, whose infected partners are not treated, do not show significant risk of reinfection).

Saliva, stool, and vomitus all harbor *H. pylori*, and might serve as sources of transmission. Since up to half of middle-aged adults have been infected, the question might best be reframed to seek how the other half remain uninfected. ■

Allergic Asthma with Monoclonal Anti-IgE Antibody

Source: Milgrom H, et al. *N Engl J Med* 1999;341:1966-1973.

Allergic mechanisms, dominantly mediated through IgE activation, are responsible for a significant burden of symptomatic asthma. After infusion of a binding antibody specifically directed against IgE (anti-E), serum-free IgE levels are dramatically lowered. This study evaluated the effect of 13 intravenous doses of anti-E over 20 weeks on asthma. The effect was measured on asthma symptoms, pulmonary function tests, use of inhaled beta agonists, and use of steroids.

The late-phase reaction of asthma, beginning 2-8 hours after antigen exposure, has been linked to asthmatic inflammation and the long-term consequences of bronchial hyperactivity, which correlate with asthma severity. Interruption of IgE affinity for target cells, or decreases in levels of activated IgE, should reduce the late-phase reaction intensity and its consequences.

Asthma symptom scores were significantly decreased by anti-E, as well as use of inhaled beta-agonist among recipients of high-dose IgE. Steroid use (inhaled and systemic) was able to be successfully reduced in patients who received anti-E. Peak expiratory flow rates were significantly improved at 20 weeks. Modulation of IgE activity through use of specific antibody may prove to be a useful therapeutic tool. ■

Effects of Influenza Vaccination of Health Care Workers on Mortality of Elderly People in Long-Term Care: A Randomized Controlled Trial

Source: Carman WF, et al. *Lancet* 2000;355:93-97.

Most of the excess mortality from influenza occurs in persons older than 65 years of age. Even though vaccination of senior citizens, especially in long-term care facilities, does reduce mortal complications of influenza, incomplete vaccination rates and poor immune response result in spotty coverage of this at-risk population. Influenza in health care workers, as manifest by seroconversion, occurs in as many as 23% of hospital staff and may be a source of transmission of influenza virus to seniors. A pilot study in which health care worker vaccination was evaluated demonstrated a 41% reduction in elderly mortality from influenza, prompting this more definitive trial.

Twenty U.K. hospitals participated in this trial—only half of which offered immunization to their health care workers (n = 1217). Randomized patients were also equally divided among the 10 hospitals that used influenza immunization and 10 that did not (n = 1437).

Only 50% of health care workers accepted the offered influenza immunization. Nonethe-

less, the senior mortality in the immunization-offered health care worker sites was 42% lower than in the nonimmunized sites. Although, for inexplicable reasons, the background immunization level of the elderly patients in the immunization-offered sites was slightly higher than in the other sites, this variance is insufficient to account for the mortality benefits seen as a result of health care worker immunization. ■

Hyperinsulinemia, Hyperglycemia, and Impaired Hemostasis

Source: Meigs JB, et al. *JAMA* 2000;283:221-228.

Only about half of the increased risk for cardiovascular mortality observed in patients with diabetes is accounted for by traditional risk factors. Insulin resistance (IR) and hyperinsulinemia (HI) have been suggested as factors to which additional cardiovascular morbidity and mortality are attributable. The mechanism(s) by which IR and HI negatively affect cardiovascular health remain to some degree speculative, but a role in modulation of coagulation status has been suggested. Meigs and colleagues evaluated a subgroup (n = 1331) of the Framingham Study population to test the hypothesis that altered glucose tolerance and insulin resistance would be associated with increased hemostatic factor levels, independent of other factors such as obesity and lipids.

Hypercoagulability has been associated with increased levels of fibrinogen, factor VII, and von Willebrand factor; decreased fibrinolytic potential has been associated with increased plasminogen activator inhibitor 1 (PAI-1) antigen, or tissue-type plasminogen activator (tPA) antigen.

In this study, fasting hyperinsulinemia was associated with increased levels of PAI-1 antigen, tPA antigen, factor VII antigen, von Willebrand factor antigen, fibrinogen, and blood viscosity. Additionally, it has been sug-

gested that elevated levels of PAI-1 predispose to low-stability plaque formation. Meigs et al comment that the atherogenic effects of glucose and insulin abnormalities seen in diabetes may be mediated through aberrations in hemostatic factors. ■

Primary Care Outcomes in Patients Treated by Nurse Practitioners or Physicians

Source: Mundinger MO, et al. *JAMA* 2000;283:59-68.

Assessment of outcomes for patients seen by different providers has been hampered by differences in practice patterns, populations, and responsibilities of clinicians in different settings. This study draws from a New York clinical setting staffed by nurse practitioners in some sites and physicians in others, where 24-hour ambulatory care is provided by both providers to a population predominantly of Hispanic origin (Dominican Republic). The work responsibilities, including opportunity for consultation, referral, and hospitalization, were the same. Patients with asthma, diabetes, and hypertension were selected for audit, since they were felt to represent a cohort in which outcomes might be reliably monitored (n = 1316 enrolled).

Overall patient satisfaction was the same for both groups. Overall health status improved over the duration of the study and was equal for both groups. Asthma and diabetic control was equal for both groups, but nurse practitioner care achieved significantly better diastolic blood pressure control than physicians. No differences were found in health care service utilization between providers. Though statistically significant, a clinically insignificant difference in patient ratings of technical skill, personal manner, and time spent was found in favor of physicians. These data suggest that nurse practitioner and physician outcomes in primary care settings are equivalent. ■

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