UPDATE

Abstracts and news from the medical literature of interest to the primary-care physician

Laser Facelift?

- **The Findings:** A novel laser device uses radiofrequency (RF) to produce controlled heating of the dermis while sparing the overlying epidermis from thermal damage with the use of cryogen cooling.
- **The Study:** Fifteen patients with sagging facial skin received one RF treatment with topical anesthetic, but without sedation. Uninvolved dermatologists evaluated patient photographs after one week and 12 weeks.
- **The Results:** All but one patient was determined to have tightened facial skin. In one patient, this result was seen within one week and, for the rest, after 12 weeks of treatment. Until now, the only option for facial sagging was surgery. Work is underway to identify appropriate candidates for this new, encouraging treatment, as well as to define reasonable expectations for patients and physicians.

Ruiz-Esparza J, Gomez JB: The medical face lift: A non-invasive, non-surgical approach to tissue tightening in facial skin using nonablative radiofrequency. Dermatol Surg 2003; 19(4):325-32.

This month:

SSRIs Producing Unwanted Side-Effects

Selective serotonin reuptake inhibitors (SSRIs) inhibit serotonin reuptake in the brain, but they also deplete serotonin from platelets. Serotonin in platelets plays an important role in hemostasis and there have been reports of prolonged bleeding time, ecchymosis, purpura, and epistaxis in SSRI users.

- **The Study:** Investigators identified 26,005 Denmark residents who took antidepressants between 1991 and 1995 and determined the rates of upper gastrointestinal (GI) bleeding associated with antidepressant use and concomitant medications.
- **The Results:** The incidence of hospitalization for GI bleeds in SSRI users was 3.6 times the rate in nonusers. Antidepressants that act on both serotonin and norepinephrine were associated with a risk ratio of 2.3. Antidepressants without serotonin transporter action showed no significant effect on the risk for GI bleeding. In patients who terminated SSRI use, the risk for GI bleeding returned to unity.

Dalton SO, Johansen C, Mellemkjaer L, et al: Use of selective serotonin reuptake inhibitors and risk of upper gastrointestinal tract bleeding: A population-based cohort study. Arch Intern Med 2003; 163(1):59-64.

Should Paramedics Intubate?

Data on field intubation of adult trauma patients are scant, but a recent study collected data on patients admitted to a trauma centre who were either intubated in the field by paramedics or immediately upon arrival to the trauma centre by trauma anesthesiologists.

- **The Study:** Paramedics determined the need for intubation and followed a strict protocol. Patients were excluded from the study if they died from non-salvageable traumatic brain injury within 48 hours, required long extrication, or could not be intubated in the field. Of the 191 patients who suffered blunt or penetrating trauma, 41% were intubated in the field and 59% in the hospital. The two groups did not differ in mean age.
- **The Results:** Patients intubated in the field had higher mortality (23% vs. 12%), higher risk for nosocomial pneumonia (49% vs. 32%), and spent more days in the hospital (20 vs. 17) than did those intubated in the hospital. However, the data must be placed in context. The field-intubated group had significantly longer times from dispatch to emergency department arrival. More importantly, the hospital-intubated group had higher incidences of neurosurgical intervention and subdural and epidural hematomas.

Bochicchio GV, Ilahi O, Joshi M, et al: Endotracheal intubation in the field does not improve outcome in trauma patients who present without an acutely lethal traumatic brain injury. J Trauma 2003; 54(2):307-11.

Can Interferon Therapy Be Stopped Early?

- **The Goal:** Hepatitis C infection is typically treated using a combination of interferon and ribavirin for 24 to 48 weeks. The treatment can be discontinued after 24 weeks if an assay reveals the presence of hepatitis C virus ribonucleic acid. However, earlier identification of virologic nonresponders is desirable, given the expense and side-effects associated with this regimen.
- **The Study:** In a recent study, researchers analyzed clinical, biochemical, virologic, and histologic parameters for predictors of nonresponse at four and 12 weeks in 260 patients treated with the interferon/ribavirin regimen.
- **The Results:** Because no patient with a viral load > 450,000 IU/mL achieved end-of-treatment virologic response, this level was used as a cutoff to maximize the negative predictive value. By applying this cutoff level at week four, treatment could be discontinued early in 14.6% of patients, and by applying a cutoff level of 30,000 IU/mL at week 12, treatment could be discontinued early in 53.7% of patients.

Berg T, Sarrazin C, Herrmann E, et al: Prediction of treatment outcome in patients with chronic hepatitis C: Significance of baseline parameters and viral dynamics during therapy. Hepatology 2003; 37(3):600-9.

Hormone Therapy With Progestins May Increase Risk of Breast Cancer

- **The Study:** In a population-based, Swedish cohort study, investigators evaluated whether breast cancer risk varies based on the type and duration of hormone therapy (HT). Almost 30,000 women were interviewed (age range, 25 to 65) and tracked over a decade. Almost 3,700 women had used menopausal HT at the time of the interview.
- **The Results:** Breast cancer risk among women who had used HT for four or more years was compared with risk among those who had never used HT. Hazard ratios are listed in Table 1. These results suggest that long-term use of any continuous combination HT regimen (*i.e.*, HT formulated with progestin) increases breast cancer risk. Thus, short-term therapy and therapy that minimizes systemic progestin exposure may be the best approaches to lessen breast cancer risk in women with intact uteri who request HT for bothersome vasomotor symptoms.

Olsson HL, Ingvar C, Bladstrom A: Hormone replacement therapy containing progestins and given continuously increases breast carcinoma risk in Sweden. Cancer 2003; 97(9):1387-92.

Table 1
Hazard ratios

Continuous combined HT: 3.13
Sequential combined HT: 1.44
Progestin only HT: 2.53
Estradiol only HT: 0.58

HT: Hormone therapy

Are Nonsedating Antihistamines True To Their Name?

- **The Study:** Second-generation antihistamines have become extremely popular because they are thought to be less sedating than their older counterparts. In a recent meta-analysis, researchers in Denver examined sedation and psychomotor impairment resulting from either first-generation antihistamine diphenhydramine or second-generation antihistamines. Eighteen randomized, blinded studies were identified.
- **The Results:** Both diphenhydramine and second-generation antihistamines caused significantly more psychomotor impairment and sedation than placebo did. Moreover, diphenhydramine also caused more psychomotor impairment and sedation than did the second-generaton antihistamines. However, this was not always the case. Although this meta-analysis supports the conclusion that second-generation antihistamines are less sedating than diphenhydramine on average, the authors of this study noted that outcomes were not consistent across all studies.

Bender BG, Berning S, Dudden R, et al: Sedation and performance impairment of diphenhydramine and second-generation antihistamines: A meta-analysis. J Allergy Clin Immunol 2003; 111(4):770-6.

Can Flu Vaccines Prevent Cardiac Disease?

- **The Study:** Influenza is linked with increased risk of adverse cardiovascular events. Researchers have recently reviewed data from patients (≥ 65 years old) enrolled in one of three managed care organizations for one of two influenza seasons: 1998/99 and 1999/00. Vaccination rates were 55.5% in 1998/99 and 59.7% in 1999/00. Vaccinated patients were older, but to account for this difference, a multivariable logistic-regression model was used.
- **The Results:** Vaccinated patients experienced significantly less hospitalization for cardiac disease (19% less in both flu seasons), less cerebrovascular disease (16% less in 1998/99; 23% less in 1999/00), and significantly lower mortality (48% less in 1998/99; 50% less in 1999/00). Although these results are observational, taken together with prior findings, they provide strong evidence for the importance of influenza vaccination in preventing adverse cardiovascular events in the elderly.

Nichol KL, Nordin J, Mullooly J, et al: Influenza vaccination and reduction in hospitalization for cardiac disease and stroke among the elderly. N Engl J Med 2003; 348 (14):1322-32.

Eplerenone Effective For Post-MI Patients

- **The Study:** In a recent, randomized, placebo-controlled trial, researchers assessed whether eplerenone improves outcomes three to 14 days after myocardial infarction (MI) in 6,632 patients with left ventricular ejection fractions ≤ 40% and heart failure or diabetes.
- **The Results:** Compared to placebo recipients, eplerenone recipients had significantly lower followup rates of the two primary end points: all-cause mortality (14.4% vs. 16.7%) and cardiovascular death or first cardiovascular hospitalization (26.7% vs. 30%). Eplerenone recipients also had lower rates of cardiovascular death alone (12.3% vs. 14.6%) and sudden cardiac death (4.9% vs. 6.1%) than placebo recipients. These differences were consistent across many subgroups. However, there were side-effects. After one year, patients taking eplerenone had slightly, but significantly, higher rates of worsening renal function and serious hyperkalemia than patients taking placebo. This study documents a clinically meaningful post-MI benefit of eplerenone for patients with left ventricular systolic dysfunction and heart failure or diabetes. It is important to note that eplerenone is FDA-approved for hypertension, but not yet for post-MI heart failure.

Pitt B, Remme W, Zanna F, et al: Eplerenone, a selective aldosterone blocker in patients with left ventricular dysfunction after myocardial infarction. N Engl J Med 2002; 348(14):1309-21.

Anticipating Neurologic Damage

- **The Study:** In a recent study, researchers reviewed computed tomography (CT) scans taken at various times in patients with large middle cerebral artery (MCA) infarctions. This research was done to assess whether specific CT characteristics in these patients could predict neurologic deterioration.
- **The Results:** Of the 36 patients with clinical signs of large MCA infarction, 22 developed neurologic deterioration a mean 57±34 hours after stroke onset. On the CT scan obtained 12 hours after onset, two factors were predictors of neurologic worsening: presence of hyperdense MCA sign (HMCAS) and low attenuation indicating > 50% involvement of the MCA territory. Although HMCAS on CT scan at any time after onset was associated with neurologic deterioration, 50% MCA involvement predicted worsening only if present on the CT scan within 12 hours of onset. The study's authors confirm that neurologic decline can, therefore, be anticipated, not just reacted to. Dx

Manno EM, Nichol DA, Fulgham JR, et al: Computed tomographic determinants of neurologic deterioration in patients with large middle cerebral artery infarctions. Mayo Clin Proc 2003; 78 (2):156-60.