*Abstracts of current literature on epidemiology, diagnosis, and treatment*

***Series Editor: Jihad Slim, MD***

## EFFECT OF LOW-DOSE HYDROCORTISONE AND FLUDROCORTISONE ON MORTALITY IN PATIENTS WITH SEPTIC SHOCK

A placebo-controlled, randomized, double-blind, parallel group trial assessed whether administration of low doses of corticosteroids improves survival of patients with septic shock and relative adrenal insufficiency. Patients (N = 300) with catecholamine-dependent septic shock in 19 intensive care units (ICUs) in France were randomly assigned to receive either hydrocortisone (50-mg intravenous bolus every 6 hours) and fludrocortisone (50-µg tablet once daily) or placebo for 7 days. The main outcome measure was the 28-day survival distribution in patients with relative adrenal insufficiency (ie, nonresponders to a corticotropin test). Among the 229 nonresponders, there were 60 deaths (53%) in the group receiving the corticosteroid regimen ($P$ = .02) and 73 deaths (63%) in those receiving placebo at day 28; similar patterns were observed at ICU discharge, at hospital discharge, and after 1-year follow-up. No significant differences were observed between treatment groups among the 70 responders at any time (1 patient was excluded from final analysis). Patients with septic shock and relative adrenal insufficiency who received corticosteroids also had a shorter median time to withdrawal of vasopressor therapy than did those who received placebo (7 days versus 10 days). The authors concluded that 7-day replacement therapy with corticosteroids is associated with a significant reduction in short-term and long-term mortality.

*Annane D, Sébille V, Charpentier C, et al. Effect of treatment with low doses of hydrocortisone and fludrocortisone on mortality in patients with septic shock. JAMA 2002;288:862–71.*

## NEW BACTERIAL STRAINS AND EXACERBATIONS OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

A prospective study evaluated whether the acquisition of a new strain of a pathogenic bacterial species is associated with exacerbation of chronic obstructive pulmonary disease (COPD). Clinical information and sputum and serum samples were obtained from 81 patients with COPD during visits to an outpatient clinic over a period of 56 months. Molecular typing of sputum isolates of nonencapsulated *Haemophilus influenzae, Moraxella catarrhalis, Streptococcus pneumoniae,* and *Pseudomonas aeruginosa* was performed. Investigators calculated the relative risk of an exacerbation when a pathogen or a new strain was present. The patients made a total of 1975 clinic visits, 374 of which were made during exacerbations of COPD. Isolation of a bacterial pathogen was associated with a significant increase in the incidence of exacerbations. An analysis of individual bacterial species showed a significant increase in the frequency of COPD exacerbations with isolation of *M. catarrhalis* and *S. pneumoniae.* Of 270 visits at which new strains were isolated, 89 (33.0%) were associated with exacerbations, compared with 213 of 1385 (15.4%) visits at which no new strains were isolated ($P$ < .001; relative risk, 2.15). The authors concluded that the isolation of new strains of *H. influenzae, M. catarrhalis,* and *S. pneumoniae* in patients with COPD is associated with acute exacerbations of the disease.

*Sethi S, Evans N, Grant BJB, Murphy TF. New strains of bacteria and exacerbations of chronic obstructive pulmonary disease. N Engl J Med 2002:347:465–71.*

## HAND-RUBBING WITH AN ALCOHOLIC SOLUTION VERSUS TRADITIONAL HAND-SCRUBBING AND SURGICAL SITE INFECTION RATES

A randomized equivalence study compared the effectiveness of hand-cleansing protocols in preventing surgical site infections (SSIs) during routine surgical practice. Between January 1, 2000, and May 1, 2001, 4387 patients underwent clean and clean-contaminated surgery at 6 surgical services at teaching and nonteaching hospitals in France. Surgical services used 2 hand-cleansing methods alternately every other month: a hand-rubbing protocol with 75% aqueous alcoholic solution containing propanol-1, propanol-2, and mecetronium etilsulfate; and a hand-scrubbing protocol using an antiseptic preparation containing 4% povidone iodine or 4% chlorhexidine gluconate. The primary endpoint of the study was to demonstrate the equivalence of hand-scrubbing and hand-rubbing protocols in preventing SSIs. SSI rates were 55 of 2252 (2.44%) in the hand-rubbing protocol and 53 of 2135 (2.48%) in the hand-scrubbing protocol—a difference of 0.04%. Compliance with the recommended duration of hand hygiene was poor in both groups but better in the hand-rubbing group (44%) than in the hand-scrubbing group (28%). Skin tolerance of the protocol was also better in the hand-rubbing group, with less skin dryness and irritation after aqueous solution use. The authors concluded that preoperative hand rubbing with aqueous alcoholic solution preceded by a nonantiseptic hand wash is a safe alternative to traditional surgical hand scrubbing.

*Parienti JJ, Thibon P, Heller R, et al. Hand-rubbing with an aqueous alcoholic solution vs traditional surgical hand-scrubbing and 30-day surgical site infection rates: a randomized equivalence study. JAMA 2002;288:722–7.*

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