

## CLINICAL CAPSULES

### Weekend MI Admissions

The higher mortality among acute myocardial infarction patients admitted to the hospital on weekends, compared with weekdays, can be attributed in part to a reduced rate of invasive cardiac procedures on weekends, reported William J. Kostis, Ph.D., of Robert Wood Johnson Medical School, Piscataway, N.J., and his associates.

Dr. Kostis and his associates used information in the Myocardial Infarction Data Acquisition System (MIDAS) database to determine whether MI-related mortality is higher with weekend presentation. The MIDAS database includes the records of more than 231,000 MI patients treated between 1987 and 2002.

Thirty-day mortality showed a significant increase in patients admitted on a Saturday or Sunday rather than on a weekday, representing 9-10 additional deaths per 1,000 admissions per year. This increased mortality persisted for a full year of follow-up (N. Engl. J. Med. 2007;356:1099-109). Patients admitted on weekends were less likely to undergo cardiac catheterization, percutaneous coronary intervention, or coronary artery bypass graft surgery than those admitted on weekdays. When patients did have them, the procedures were more likely to be delayed by several days, compared with procedures for patients who had weekday admissions.

### Chest Compression Trumps CPR

Resuscitation by lay rescuers using chest compression alone is equivalent—and even superior in some subgroups—to conventional CPR for adults with cardiac arrest in terms of neurologic benefit, according to Dr. Ken Nagao of Surugadai Nihon University Hospital, Tokyo, and his colleagues from the SOS-KANTO study group.

Cardiac-only resuscitation (chest compression alone) resulted in more patients with favorable neurologic outcomes at 30 days after cardiac arrest than those in the conventional CPR group (chest compression and ventilating breaths) in subgroups with apnea (odds ratio 2.0), ventricular fibrillation or tachycardia as initial cardiac rhythm (OR 1.9), and resuscitation starting within 4 minutes of collapse (OR 2.1).

But the frequency of favorable neurologic outcomes at 30 days for the whole cohort was not significantly different between the cardiac-only and the CPR groups—6% vs. 4%, respectively (Lancet 2007;369:920-6).

The researchers compared 30-day neurologic outcomes for cardiac-only resuscitation with conventional CPR in a prospective, multicenter, observational study involving 4,241 adults who had cardiac arrest. Of those, 1,324 patients received bystander resuscitation: 38% received cardiac-only resuscitation and 62% conventional CPR. The rest received no resuscitation.

The primary end point was favorable neurologic outcomes 30 days after cardiac arrest; the secondary end point was survival at 30 days after cardiac arrest. Cardiac-only resuscitation may be more efficient than CPR because with an open airway, gasping and passive chest recoil provide some air exchange, or mouth-to-mouth ventilation could take time away from the chest compression needed for supporting cerebral and coronary perfusion, they suggested.

### Cost Concerns Badger MI Patients

Financial barriers to obtaining health care are a common risk factor in MI patients, even in those who are insured, reported Dr. Ali R. Rahimi of Yale University, New Haven, Conn., and his associates.

In a study of nearly 2,500 MI patients nationwide, about one in five reported that they avoided getting health care services because of the expense, and about one in eight said they avoided medication for the same reason. Both characteristics were strong predictors of adverse outcomes, even after controlling for traditional risk factors.

The researchers assessed financial barriers to care as part of the PREMIER study, a prospective observational study of MI patients treated at 19 U.S. medical centers in 2003-2004. Upon hospitalization, subjects reported whether they had avoided obtaining health care or prescribed medications during the preceding year. They were followed for 1 year after discharge to assess MI-related outcomes.

Subjects who reported having restricted medical services or medications because of costs had a significantly higher prevalence of angina, and poorer quality of life and overall physical and mental function, both at their MI hospitalization and 1 year later.

Those who did not adhere to prescription guidelines because of costs had a 50% higher risk of rehospitalization for any cause and a 70% higher risk for cardiac rehospitalization during the year after an MI than did those with no such financial barriers to medication. Inpatient care was almost identical for the two groups, so the disparities in the outcomes can be attributed to the pre-MI and postdischarge periods, the authors noted. In those who cut back on services or medications because of costs, 69% had health insurance, and about 40% had Medicaid or Medicare coverage, suggesting that underinsurance is the problem, they said.

—From staff reports



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Levemir is indicated for once- or twice-daily subcutaneous administration for the treatment of adult and pediatric patients with type 1 diabetes mellitus or adult patients with type 2 diabetes mellitus who require basal (long-acting) insulin for the control of hyperglycemia.

**Important safety information**  
Levemir should not be diluted or mixed with any other insulin preparations. Levemir is contraindicated in patients hypersensitive to insulin detemir or one of its excipients.

Hypoglycemia is the most common adverse effect of all insulin therapies, including Levemir. As with other insulins, the timing of hypoglycemic events may differ among various insulin preparations. Glucose monitoring is recommended for all patients with diabetes. Any change of insulin dose should be made cautiously and only under medical supervision. Concomitant oral antidiabetes treatment may require adjustment.

Levemir is not to be used in insulin infusion pumps. Inadequate dosing or discontinuation of treatment may lead to hyperglycemia and, in patients with type 1 diabetes, diabetic ketoacidosis. Insulin may cause sodium retention and edema, particularly if previously poor metabolic control is improved by intensified insulin therapy. Dose and timing of administration may need to be adjusted to reduce the risk of hypoglycemia in patients being switched to Levemir from other intermediate or long-acting insulin preparations. The dose of Levemir may need to be adjusted in patients with renal or hepatic impairment.

Other adverse events commonly associated with insulin therapy may include injection site reactions (on average, 3% to 4% of patients in clinical trials) such as lipodystrophy, redness, pain, itching, hives, swelling, and inflammation.

\*Whether these observed differences represent true differences in the effects of Levemir and NPH insulin is not known, since these trials were not blinded and the protocols (eg, diet and exercise instructions and monitoring) were not specifically directed at exploring hypotheses related to weight effects of the treatments compared. The clinical significance of the observed differences in weight has not been established.

Reference: 1. IMS Health, IMS MIDAS [12 months ending September 2005]. Please see brief summary of Prescribing Information on adjacent page. FlexPen and Levemir are registered trademarks of Novo Nordisk A/S. © 2006 Novo Nordisk Inc. 131007 September 2006

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