



# This Week in the Journal

FEBRUARY 12, 2004

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## POWERPOINT SLIDES OF JOURNAL FIGURES

At the *Journal's* Web site, subscribers can automatically create PowerPoint slides of *Journal* figures. Click on a figure in the full-text version of any article at [www.nejm.org](http://www.nejm.org), and then click on PowerPoint Slide for Teaching. A PowerPoint slide containing the image, with its title and reference citation, can then be downloaded and saved.

## ORIGINAL ARTICLE

### Use of B-Type Natriuretic Peptide in the Management of Acute Dyspnea

B-type natriuretic peptide is released from the cardiac ventricles in response to hemodynamic overload, and blood levels are higher in patients with heart failure than in those with other causes of dyspnea. This study showed that the diagnostic use of B-type natriuretic peptide levels in patients with acute dyspnea reduced the rate and duration of hospitalization and the cost of treatment.

Measurement of B-type natriuretic peptide levels should be considered for routine use in the evaluation of patients with acute dyspnea.

SEE P. 647; EDITORIAL, P. 718

## ORIGINAL ARTICLE

### Natriuretic Peptide Levels and Cardiovascular Risk

B-type natriuretic peptide and atrial natriuretic peptide are secreted by cardiac cells in response to hemodynamic stress. In the Framingham Heart Study population, natriuretic peptide levels were found to predict the risk of heart failure, first cardiovascular events, atrial fibrillation, and stroke or transient ischemic attack, even after adjustment for traditional cardiovascular risk factors.

Natriuretic peptide levels may be useful markers of cardiovascular risk, even in persons without clinically apparent cardiovascular disease.

SEE P. 655; EDITORIAL, P. 718

## ORIGINAL ARTICLE

**Impaired Mitochondrial Activity in Offspring of Patients with Type 2 Diabetes**

Insulin resistance is the best predictor of the development of diabetes in the children of patients with type 2 diabetes. This study examined insulin sensitivity in liver and muscle in the insulin-resistant offspring of patients with type 2 diabetes and in insulin-sensitive controls. Insulin-stimulated muscle glucose uptake was approximately 60 percent lower in the insulin-resistant offspring and was associated with an increase of approximately 80 percent in intramyocellular lipid content, which was mostly attributable to mitochondrial dysfunction.

Insulin resistance in the skeletal muscle of the insulin-resistant offspring of patients with type 2 diabetes may be due to dysregulation of intramyocellular fatty acid metabolism.

SEE P. 664; PERSPECTIVE, P. 639

## ORIGINAL ARTICLE

**Circulating Angiogenic Factors and Preeclampsia**

In this nested case-control study, increased levels of soluble fms-like tyrosine kinase 1 (which binds placental growth factor) and reduced levels of placental growth factor — changes that have been implicated in endothelial dysfunction — predicted the subsequent development of preeclampsia.

Although more data are needed, the observed associations between alterations in the levels of angiogenic factors and the subsequent risk of preeclampsia suggest a possible pathogenic role for these factors in the development of preeclampsia.

SEE P. 672; PERSPECTIVE, P. 641

## CLINICAL PRACTICE

**Ureteral Stones**

A 39-year-old man reports an eight-hour history of colicky pain in the right lower quadrant radiating to the tip of his penis. He had previously had a kidney stone, which passed spontaneously. Examination shows he has tenderness of the right costovertebral angle and right lower quadrant. Urinalysis shows microhematuria. Helical computed tomography shows a 6-mm calculus of the right distal ureter and mild hydroureteronephrosis. How should this patient be treated?

SEE P. 684

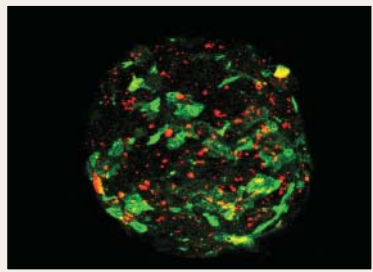


## MEDICAL PROGRESS

**Islet Transplantation as a Treatment for Diabetes**

Although pancreas transplantation is increasingly being performed in an effort to provide type 1 diabetic patients with the possibility of an insulin-injection-free existence, islet transplantation is potentially less invasive. This review discusses pancreatic islet-cell transplantation as an evolving procedure.

SEE P. 694



## CASE RECORDS OF THE MASSACHUSETTS GENERAL HOSPITAL

**A Man with Slurred Speech and Left Hemiparesis**

A 57-year-old right-handed man was admitted to the hospital because of the sudden onset of slurred speech and left hemiparesis. Imaging studies revealed an infarct in the area of the right middle cerebral artery. With thrombolysis, recanalization of the vessels was achieved, but the patient's condition continued to worsen.

This Case Record reviews the urgent evaluation and management of acute stroke and discusses approaches to surgical intervention.

SEE P. 707

## SOUNDING BOARD

**Spinal Fusion — The Case for Restraint**

The use of spinal-fusion surgery is increasing rapidly in the United States. Most of these expensive, complex procedures are now being done for back pain and degenerative disease. Spinal fusions require long operations and are associated with an increase in the rate of complications, particularly in older patients. The benefits of surgery may be only modest, and pain relief is affected by many factors besides the anatomy. The authors of this article argue for restraint in the use of spinal-fusion surgery and for controlled trials to define more clearly the associated benefits and the indications.

SEE P. 722; PERSPECTIVE, P. 643