



Clinical Digest

CARDIOLOGY

Predicting Post-CABG Events

Researchers from Duke University in Durham, NC were curious as to why—despite improved myocardial protection strategies and surgical techniques—mortality following coronary artery bypass graft (CABG) surgery still ranges between 3% and 20%. Since studies have shown a link between low dietary magnesium intake and cardiovascular disease, they decided to investigate the relationship between perioperative serum magnesium levels and adverse events after primary CABG. Their findings demonstrate that low postoperative levels of serum magnesium do, in fact, correlate with an elevated incidence of Q-wave infarction and higher mortality rates.

The researchers enrolled 1,000 patients undergoing primary CABG between 1998 and 1999. A total of 957 were included in the analysis. These patients' magnesium levels were measured daily, with low magnesium being defined as less than 1.8

mmol/L⁻¹ at any point during the first eight days after surgery. In the low magnesium group, 12.3% of patients had adverse events, compared with 9.2% of patients who had normal magnesium levels. A serum magnesium level of less than 1.8 mmol/L⁻¹ doubled the risk of death or myocardial infarction at one year. The effect was independent of known preoperative and intraoperative predictors of adverse outcomes.

While the cause-and-effect relationship was unclear, the researchers speculate that the antiplatelet and coronary vasodilating actions of magnesium may protect the myocardium, or that magnesium may be a marker of an unknown factor.

Source: *Am Heart J.* 2003;145:1108–1113.

ONCOLOGY

When Weight Loss Indicates Cancer

When a patient loses weight involuntarily without organ-specific signs and symptoms, the challenge is to discover

whether the cause is metabolic, psychiatric, inflammatory, infectious, or cancerous. In the absence of an established diagnostic approach, researchers from University of Cantabria, Santander, Spain suggest starting with routine blood tests and abdominal ultrasonography—with any additional testing guided by these results.

They retrospectively reviewed medical record data of all patients who had been admitted to their urban, tertiary care hospital with preliminary diagnoses of involuntary weight loss between 1991 and 1994. Then, from 1995 to 1996, the researchers prospectively evaluated all patients referred to the hospital with that same diagnosis. During the total study period, 1,211 patients presented with involuntary weight loss. After exclusion criteria were applied (previous diagnosis of a disease that can cause involuntary weight loss, radiographic abnormality, intentional weight loss, or diuretic use) and final diagnoses were established, the study cohort consisted of 262 patients, 104 of whom had cancer—mainly of the digestive system.

Routine blood tests usually provided the first diagnostic clue, the researchers say. Nevertheless, cancer was missed in nine cases following the initial evaluation. Among the study's 200 inpatients, 78 of the 97 with cancer (80%) had an abnormal complete blood cell count versus 54 of the 103 noncancer patients (52%). More targeted diagnostic procedures—such as ultrasonography, computed tomography, and endoscopy—captured most of the rest. Two patients had normal results in all of the tests and weren't diagnosed with cancer until autopsy.

The patients with cancer had a median survival of just two months, and only nine (3%) lived more than one year after presentation. In light of these findings, the researchers question the ultimate benefit of an intensive diagnostic workup for cancer in patients with unexplained, involuntary weight loss. ●

Source: *Am J Med.* 2003;114:631–637.

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