PANCREAS

Blood urea nitrogen levels predict mortality risk in acute pancreatitis

Acute pancreatitis is associated with high hospitalization rates, and ≤20% of hospitalized patients develop a life-threatening form of the disease that requires intensive care, typically within 24–48 h of admission. For this reason, early identification of these high-risk patients is vital. Bechien Wu and colleagues now report that serial measurements of blood urea nitrogen (BUN) levels provide an accurate assessment of acute pancreatitis severity and are a good predictor of clinical outcome and mortality risk.

The researchers analyzed data from 1,043 patients with acute pancreatitis who had participated in three prior prospective studies. After adjustment for age, sex and creatinine levels, high BUN levels (≥20 mg/dl) at admission, and any rise in BUN levels in the first 24 h after admission, were both independently associated with an approximately fourfold increase in mortality risk.

Interestingly, a ≥5 mg/dl decline in BUN levels in patients with high levels at admission was associated with significantly reduced mortality (2.9%, versus 15% for patients whose levels remained high) By contrast, in patients who had normal BUN levels at admission, an increase of ≥2 mg/dl in the first 24 h was associated with significantly increased mortality (6.7% versus 0.9%).

Wu and colleagues assert that serial BUN measurements are as accurate as the APACHE II score—the most widely used scale for evaluation of patients with acute pancreatitis—for predicting early in-hospital mortality.

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Original article Wu, B. U. *et al.* Blood urea nitrogen in the early assessment of acute pancreatitis: an international validation study. *Arch. Intern. Med.* **171**, 669–676 (2011)

Further reading Gardner, T. B. BUN level as a marker of severity in acute pancreatitis. *Arch. Intern. Med.* **171**, 676–677 (2011)