Balthazar computed tomography severity index is superior to Ranson criteria and APACHE II scoring system in predicting acute pancreatitis outcome

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摘要

Abstract

AIM: Acute pancreatitis (AP) is a process with variable involvement of regional tissues or organ systems. Multifactorial scales included the Ranson, Acute Physiology and Chronic Health Evaluation (APACHE II) systems and Balthazar computed tomography severity index (CTSI). The purpose of this review study was to assess the accuracy of CTSI, Ranson score, and APACHE II score in course and outcome prediction of AP.

METHODS: We reviewed 121 patients who underwent helical CT within 48 h after onset of symptoms of a first episode of AP between 1999 and 2003. Fourteen inappropriate subjects were excluded; we reviewed the 107 contrastenhanced CT images to calculate the CTSI. We also reviewed their Ranson and APACHE II score. In addition, complications, duration of hospitalization, mortality rate, and other pathology history also were our comparison parameters.

RESULTS: We classified 85 patients (79%) as having mild AP (CTSI <5) and 22 patients (21%) as having severe AP (CTSI ¡Ý5). In mild group, the mean APACHE II score and Ranson score was 8.6±1.9 and 2.4±1.2, and those of severe group was 10.2±2.1 and 3.1±0.8, respectively. The most common complication was pseudocyst and abscess and

it presented in 21 (20%) patients and their CTSI was 5.9±1.4. A CTSI ¡Ý5 significantly correlated with death, complication present, and prolonged length of stay. Patients with a CTSI ¡Ý5 were 15 times to die than those CTSI <5, and the prolonged length of stay and complications present were 17 times and 8 times than that in CTSI <5, respectively.

CONCLUSION: CTSI is a useful tool in assessing the severity and outcome of AP and the CTSI ¡Ý5 is an index in our study. Although Ranson score and APACHE II score also are choices to be the predictors for complications, mortality and the length of stay of AP, the sensitivity of them are lower than CTSI.