Contrast material extravasation on contrast-enhanced helical computed tomographic scan of blunt abdominal trauma: it significance on the choice, time, and outcome of treatment

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摘要

Abstract

BACKGROUND: Contrast-enhanced helical computed tomographic (CT) scan of blunt abdominal trauma is valuable for detecting contrast material extravasation (CME). The aims of this study were to determine its significance and investigate factors associated with the choice, time, and outcome of management. METHODS: CT scans of 32 consecutive trauma patients who had CME were reviewed for the sources of CME, types of CME, flat inferior vena cava, and multiple abdominal injuries. The medical records were reviewed for demographics, systolic blood pressure, Injury Severity Score (ISS), choice of management, time interval between CT scan and intervention, and outcome of intervention. RESULTS: Systolic blood pressure < 100 mm Hg was the most importantfactor (p = 0.0064) that failed observational therapy. When proceeding to intervention treatment, patients with a flat inferior vena cava (1.6 +/- 1.1 hours) had a significantly shorter time interval between CT scan examination and intervention whencompared with those with a normal cava (10.9 +/- 16.0 hours) (p= 0.0124). The mortality rate after intervention treatment was 18.8%. High ISS, uncontained CME in the extraperitoneum, and multiple abdominal injuries were important risk factors. Afteradjusted for ISS and multiple abdominal injuries, the risk of dying from extraperitoneal CME remained significant when compared with intraperitoneal CME (adjusted odds ratio, 82.26; 95% confidence interval, 1.06-6,363.17). CONCLUSION: Termination ofobservational therapy was appropriate for trauma patients who had CME and systolic blood pressure < 100 mm Hg. The coexistence of a flat inferior vena cava and CME was associated with early intervention treatment. Despite early intervention, the mortality rate was 18.8%. High ISS and multiple abdominal injuries were important factors, but the risk of dying from uncontained extraperitoneal

CME was 82 times the risk of dying from intraperitoneal CME.