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**Predictors of major liver injury in the initial period after blunt hepatic trauma**

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**Purpose.** Major liver injury (MLI) after blunt hepatic trauma causes uncontrolled hemorrhage and can be life threatening. Therefore, the detection of MLI during initial management is important and if, needed, transfer to a facility with required hospital resources, intensive care monitoring, blood transfusion, radiologic diagnosis and intervention, and surgery.

**Methods.** The study included 148 patients who underwent abdominal and chest computed tomography within 4 hours after blunt hepatic trauma at our hospital between January 2008 and December 2017. Patients were classified into two groups based on the American Association for the Surgery of Trauma (AAST) liver injury scale: AAST grade 0-II (minor injury group, n = 89) and AAST grade III-V (MLI group, n = 59). Patient demographics, laboratory results, and patterns of rib fracture were recorded.

**Results.** Injury severity scores were significantly different between the two groups ( $25.8 \pm 13.8$  in the MLI group and  $12.2 \pm 8.5$  in the minor liver injury group,  $P < 0.001$ ). Significant predictors of MLI were the international normalized ratio (relative risk, 4.987; 95% confidence interval [CI], 1.685-14.763;  $P = 0.004$ ) and right upper rib fractures (relative risk, 2.558; 95% CI, 1.170-5.596;  $P = 0.019$ ).

**Conclusion.** Initial laboratory test results and pattern of fractured ribs after blunt hepatic trauma significantly predict MLI at initial period and it would be helpful for risk stratification of patients and optimize the usage of limited hospital resources, thereby reducing morbidity and mortality of patients with MLI.