

## 중증 패혈증 및 패혈성 쇼크 환자에서 평균 혈소판 용적의 증가는 사망률증가에 영향을 미친다

연세대학교 의과대학 내과학교실

주영수, 김찬호, 기연경, 윤창연, 이은영, 한인미, 한승규, 박정탁, 한승혁, 유태현, 강신욱, 오형중

### An Increase in Mean Platelet Volume from Baseline is Associated with Mortality in Patients with Severe Sepsis or Septic Shock

Young Su Joo, Chan Ho Kim, Youn Kyung Kee, Chang-Yun Yoon, Eunyoung Lee  
In Mee Han, Seung Gyu Han, Jung Tak Park, Seung Hyeok Han, Tae-Hyun Yoo  
Shin-Wook Kang, Hyung Jung Oh

Department of Internal Medicine, Yonsei University College of Medicine

**Background:** Mean platelet volume (MPV) is suggested as an index of inflammation and disease activity in addition to reflecting the efficacy of anti-inflammatory treatment in chronic inflammatory disorder patients. However, the prognostic value of MPV on mortality remains unclear in patients with severe sepsis.

**Methods:** We prospectively enrolled 345 patients admitted to the emergency department (ED) who received standardized resuscitation (early goal-directed therapy) for severe sepsis and/or septic shock between Nov. 2007 and Dec. 2011. The change in MPV between hospital admission and 72 hours after treatment ( $\Delta$ MPV72h-adm) was evaluated as a prognostic factor for 28-day mortality. Linear mixed model and Cox proportional hazards analysis were used.

**Results:** The mean age of the enrolled patients was  $64.2 \pm 15.7$  years, 169 (49.0%) of them were males. Thirty-five (10.1%) patients died within 28 days after ED admission. During the first 72 hrs of ED admission, MPV significantly increased in both non-survivors ( $p=0.001$ ) and survivors ( $p<0.001$ ) compared to baseline.  $\Delta$ MPV72h-adm was significantly higher, in non-survivors compared to survivors ( $p=0.003$ ). However, the change in the number of platelets over the first 72 hours did not differ significantly between the two groups ( $p=0.360$ ). Multivariate analysis revealed that  $\Delta$ MPV72h-adm was an independent predictor of 28-day mortality, even after adjusting for age, sex, body mass index, Sequential Organ Failure Assessment scores, renal replacement therapy, platelet count, C-reactive protein levels, albumin levels, and lactate levels (hazard ratio, 1.44; 95% confidence interval, 1.01-2.06;  $p=0.044$ ).

**Conclusions:** An increase in MPV during the first 72 hours of hospitalization could be an independent risk factor for adverse clinical outcomes in severe sepsis. Therefore, continuous monitoring of MPV may be useful to stratify mortality risk in patients with severe sepsis and/or septic shock.

**Key Words:** 평균 혈소판 용적 변화, 사망률, 중증 패혈증

Change of mean platelet volume, Mortality, Severe sepsis