

Thromboelastography Predictive of Death in Trauma Patients

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Purpose: Coagulopathy following trauma is a common condition. The purpose of this study was to determine if thromboelastography (TEG) was predictive of patient outcomes following a traumatic injury.

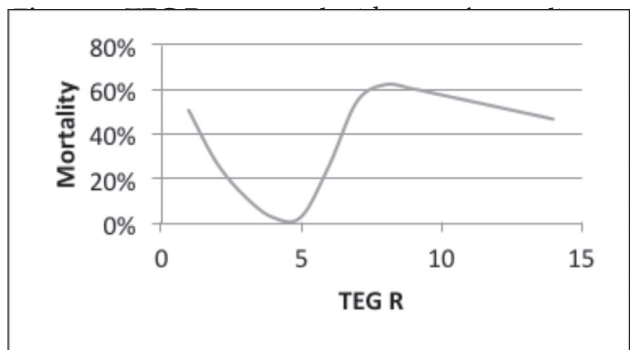
Methods: This was a retrospective review of a consecutive series of 131 patients with pelvic trauma admitted to a Level II trauma center over a 4-year period. TEG and traditional clotting parameters were recorded on patients who were admitted with orthopaedic trauma. Medical records were reviewed for specific complications, including death (n = 18), resuscitation effort (n = 19), pulmonary embolism (n = 5), and pelvic hematoma (n = 84).

Results: Evaluating the TEG data, there were 41 patients with abnormal clotting time (TEG R). TEG R >6 was an independent risk factor for death (odds ratio 16, 95% confidence interval 5.4-53, P = 0.0001). The death rate was 52% in patients with TEG R values equal to and above 6 (n = 13/25). There was no significant association between traditional clotting markers and death rate.

Conclusion: TEG reaction time value, representing the time of initial clot formation, was the only hematologic marker predictive of mortality in patients with trauma. Delay in reaction time was associated with a significantly increased death rate, independent of injury severity. The death rate association was not observed with traditional markers of clotting. Based on these data, we recommend that patients with pelvic trauma undergo screening TEG to evaluate for coagulopathy.

Table 1.
Mortality Rate Compared with TEG R Values

	Total	Death	Percent
R <6	106	5	4.72%
R ≥6	25	13	52%
R <3.8	36	4	11.10%



POSTER ABSTRACTS