Early coagulopathy in multiple injury: An analysis from the German Trauma Registry on 8724 patients

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SUMMARY

Background: There is increasing evidence for acute traumatic coagulopathy occurring prior to emergency room (ER) admission but detailed information is lacking.

Patients and methods: A retrospective analysis using the German Trauma Registry database including 17,200 multiple injured patients was conducted to determine (a) to what extent clinically relevant coagulopathy has already been established upon ER admission, and whether its presence was associated (b) with the amount of intravenous fluids (i.v.) administered pre-clinically, (c) with the magnitude of injury, and (d) with impaired outcome and mortality. Eight thousand seven hundred and twenty-four patients with complete data sets were screened.

Results: Coagulopathy upon ER admission as defined by prothrombin time test (Quick’s value) <70% and/or platelets <100,000 μl⁻¹, was present in 34.2% of all patients. There was an increasing incidence for coagulopathy with increasing amounts of i.v. fluids administered pre-clinically. Coagulopathy was observed in >40% of patients with >2000 ml, in >50% with >3000 ml, and in >70% with >4000 ml administered. Ten percentage of patients presented with clotting disorders although pre-clinical resuscitation was limited to 500 ml of i.v. fluids maximum. The mean ISS score in the coagulopathy group was 30 (S.D. 15) versus 21 (S.D. 12) (p < 0.001). Twenty-nine percentage of patients with coagulopathy developed multi organ failure

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