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Thrombotic Thrombocytopenic Purpura or Disseminated Intravascular Coagulation? Diagnostic Dilemma in the ICU

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DIC and TTP are two causes of thrombocytopenia that require timely diagnosis and different treatments. Both conditions can be characterized by systemic microvascular thrombosis, with an incidence of 4 to 11 cases per million people. Like DIC, TTP has no specific diagnostic test and it shares many of the clinical and laboratory features of DIC that can make the two diagnoses difficult to differentiate. Prompt recognition of TTP is warranted as it responds well to plasmapheresis, and without treatment it is associated with a high mortality rate.

Our patient had symptoms and laboratory values that were consistent with both TTP and DIC, and both diagnoses were considered for the majority of her hospital course. It was ultimately the spontaneous recovery of her platelet count that ruled out TTP as the etiology. The initial DIC panel on HD 4 was considered “inconclusive” because of the elevated fibrinogen and marginally elevated clotting times, but the literature shows that in the acute phase response there is shortening of activated partial thromboplastin time and increased fibrinogen concentrations.

Therefore, a normal value for these measurements may not rule out DIC. As previously mentioned, the patient’s acute renal failure was another reason TTP was strongly considered. Literature shows, however, that acute renal failure occurs infrequently in TTP. Our patient’s renal failure was likely coincidental, secondary to an intraoperative insult. Critical care patients often have anemia and thrombocytopenia and the etiology is unlikely to be TTP even if MAHA is present.

Our case demonstrates the difficulties in confirming a diagnosis with sensitive but nonspecific criteria. TTP and DIC share similar characteristics, but missing a timely diagnosis of TTP can prove fatal for the patient without treatment.

References

Abbreviations
DIC = Disseminated intravascular coagulation
TTP = Thrombotic thrombocytopenic purpura
AKI = Acute kidney injury
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