MICROANGIOPATHIC HEMOLYTIC ANEMIA AND THROMBOCYTOPENIA : A RARE COMPLICATION OF ACUTE PANCREATITIS

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INTRODUCTION

Thrombotic microangiopathy (TMA) is defined as the presence of microangiopathic hemolytic anemia and thrombocytopenia (MAHA-T), associated with end-organ dysfunction. We report a rare presentation of MAHA-T triggered by acute pancreatitis (AP) with normal ADAMTS13 levels and treated with therapeutic plasma exchange (TPE).

CASE OVERVIEW

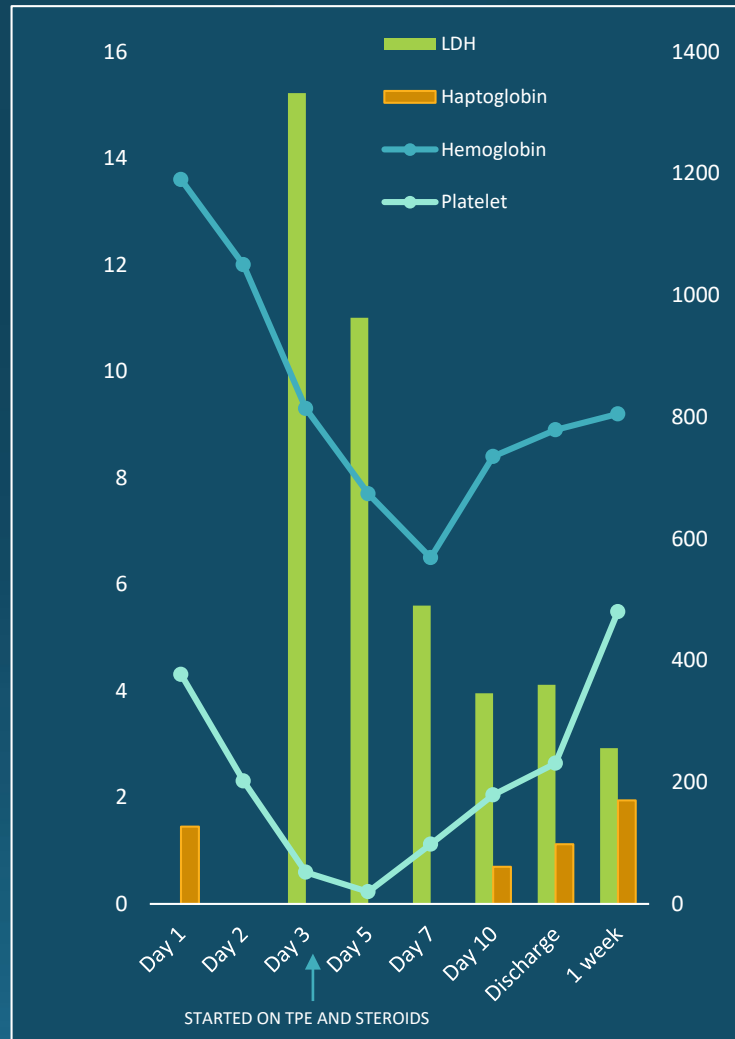
INITIAL PRESENTATION

A 25 year old woman, 10 weeks post-partum was admitted with abdominal pain and vomiting. Vital signs were within normal limits. Physical exam was significant for tenderness to palpation in th epigastric region. Admission labs were significant for leukocytosis 14,000/mm^3, Lipase >1200 U/L, AST 449 U/L, ALT 640 U/L. Abdominal ultrasound showed cholelithiasis and gallbladder sludge without cholecystitis. CT abdomen and pelvis notable for acute pancreatitis without visible necrosis. She was started on Lactated Ringers and opioids for management of acute gallstone pancreatitis. Diet was advanced with resolution of clinical symptoms by hospital day three.

HOSPITAL COURSE

On day 4, she was noted to have an acute drop in hemoglobin from 13.6g/dL to 9.2g/dL and platelet count from 377k/mm^3 to 52k/mm^3. Further work up revealed negative coombs test, reticulocyte count 3.08%, peripheral smear with >2 schistocytes per high power field, LDH 1332 units/L and haptoglobin <8 mg/dL with no overt signs of bleeding, suggestive of hemolysis. Hematology was consulted and she was started on TPE and corticosteroids for a presumed diagnosis of TTP. Her hemoglobin reached a nidus of 6.5g/dL on day seven and platelet count reached a nidus of 20k/mm^3 on day five (as seen on graph). She underwent five sessions of TPE with improvement in hemoglobin to 8.9mg/dL and platelets to 237k/mm^3 on day 11. ADAMTS 13 level (sent on day 4) was 107% and steroids were discontinued. Diagnosis of TTP was excluded in favor of pancreatitis-induced post-partum MAHA-T. She was discharged with close follow up with hematology.

HEMOLYSIS TRENDS



DISCUSSION AND CONCLUSION

MAHA-T is a rare complication of AP. AP triggers a systemic inflammatory response with increased plasma levels of inflammatory cytokines which are implicated in endothelial injury, which has been postulated to be a causative mechanism of MAHA-T.
Thrombocytopenia and MAHA are early clues that can be identified with an elevated LDH, low haptoglobin, and presence of two or more schistocytes per high power field. Our patient had these findings with a negative coombs test and normal ADAMTS 13 level which ruled out TTP. She didn't have intravascular or assist devices that may cause MAHA. Hence pancreatitis was deemed to be the most likely etiology. Her post-partum state may have predisposed her to MAHA. Pregnancy-associated TMA is most common in the 3rd trimester and postpartum period.
The few cases of MAHA-T in the setting of AP that have been described showed good outcomes with the use of TPE. Our patient was also started on TPE with resolution of thrombocytopenia and anemia.

CONCLUSION

Physicians should monitor for MAHA-T as a complication of AP as timely diagnosis and treatment is paramount. While TPE remains the mainstay of treatment, it is unclear if the observed hematologic and clinical response is related to TPE or to the improvement of underlying inflammatory response, or both. Further research is warranted regarding the same.

REFERENCES

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