Thrombotic Microangiopathy (TMA)

TMAs are a group of disorders characterized by thrombocytopenia, microangiopathic hemolytic anemia, and organ dysfunction, which can affect the brain, kidneys, heart, pancreas, liver, lungs, eyes, and skin

Patients may present with the following signs and symptoms

Thrombocytopenia¹⁻³

- Purpura
- Petechiae
- Prolonged bleeding
- Bleeding from gums or nose
- Blood in urine or stool, or bleeding from rectum
- Abnormal vaginal bleeding
- Headaches
- Easy bruising, retinal hemorrhage, and hemoptysis

Microangiopathic hemolytic anemia⁴

- Fatigue
- Dyspnea
- Dark urine
- Back pain

Organ injury/AKI^{3,5}

- Acute kidney injury
 - Listlessness
 - Confusion
 - Fatigue
 - Anorexia
 - Nausea
 - Vomiting
 - Proteinuria
 - Weight gain

- Edema
- Oliguria/Anuria

Jaundice Paleness

murmur

- Uremic encephalopathy
 - Decline in mental status, asterixis, neurologic symptoms
- Anemia
- Uremic platelet dysfunction

Resting tachycardia with flow

- Microhematuria

Patients may also present with other signs and symptoms^{3,4,6-8}

- CNS symptoms: Weakness, transient focal neurologic abnormalities, confusion, headache, paresis, aphasia, dysarthria, visual problems, encephalopathy, seizures, altered consciousness, coma
- Cardiac symptoms: Chest pain, heart failure, hypotension, hypertension, myocardial infarction
- GI symptoms: Severe abdominal pain, diarrhea, pancreatitis, vomiting
- Pulmonary symptoms: Dyspnea, pulmonary hemorrhage, pulmonary edema

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TMAs require rapid differential diagnosis⁹⁻¹²



ABBREVIATIONS

ADAMTS13, a disintegrin and metalloproteinase with a thrombospondin type 1 motif member 13; AKI, acute kidney injury; CNS, central nervous system; CV, cardiovascular; EHEC, enterohemorrhagic Escherichia coli; eGFR, estimated glomerular filtration rate; GI, gastrointestinal; HUS, hemolytic uremic syndrome; LDH, lactate dehydrogenase; MI, myocardial infarction; sCr, serum creatinine; STEC, Shiga toxin-producing Escherichia coli; TMA, thrombotic microangiopathy; TTP, thrombotic thrombocytopenic purpura.

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