A 10 month old previously healthy female infant presented with acute onset of facial & lower extremity edema. There was no evidence of diarrhea or change in urine output at presentation. Family history revealed male sibling who died at 4 months of age due an undetermined cause. Physical examination revealed an alert afebrile infant with peripheral, facial and severe peri-orbital edema. Bilateral crackles were audible on the lung exam. Cardiac exam was unremarkable. The infant was warm, well perfused with good peripheral pulses and brisk capillary refill. She was found to have severe hypertension with blood pressure (BP) in the 200s systolic and 120s diastolic in all 4 extremities. Additional investigations revealed severe anemia with a hemoglobin and hematocrit of 6.0/16.2, respectively. Peripheral blood smear revealed schistocytes, consistent with microangiopathic anemia. Initial platelet count, serum creatinine, potassium and sodium bicarbonate were normal, but albumin was low at 2.5 mg/dl. Initial urinalysis demonstrated +3 proteinuria, +1 hemoglobin and 1-2 RBCs. 2D echo revealed presence of left ventricular hypertrophy (LVH). Imaging and hormonal studies excluded renovascular hypertension. Intravenous infusion of sodium nitroprusside was started in an effort to decrease the BP. Lasix was initiated in an attempt to minimize edema. Packed RBCs were given to correct anemia. Hospital course was characterized by progressive azotemia, oliguria and thrombocytopenia. Renal biopsy revealed presence of thrombotic microangiopathy. A clinical diagnosis of diarrhea-negative (atypical) HUS was established and targeted investigations were commenced. Daily plasmapheresis was promptly initiated. Progressive azotemia required later initiation of CVVHD. Despite intensive therapy, patient died from fatal cardiac arrhythmia. Molecular analysis revealed absence of mutations in complement factor I (CFI), complement factor B (CFB), complement factor H-related 5 (CFHR5), membrane cofactor protein (MCP), complement C3 and presence of 158G>A transition in complement factor H (CFH) of unknown significance. This case illustrates importance of high index of suspicion for this rare disease where 25% of children are likely to die during the acute phase.