MO313 **A CASE OF ALPORT SYNDROME WITH PREGNANCY-RELATED ATYPICAL HEMOLYTIC UREMIC SYNDROME, AND CRESCENTIC GLOMERULONEPHRITIS**

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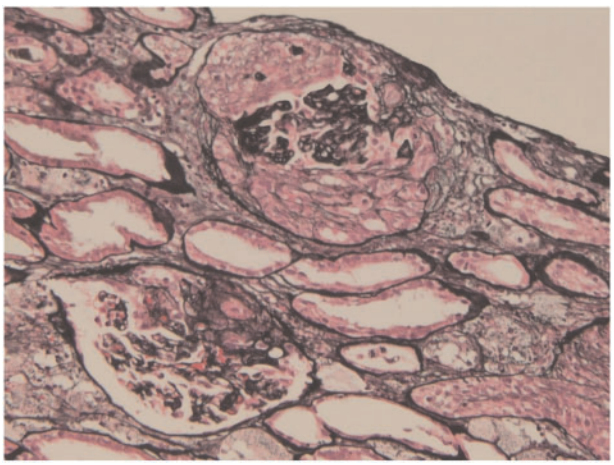
MO313 Table 1:

Variable	Reference Values	On Admission	At delivery	10 days post-partum	20 days post-partum	6 months post-admission
Hemoglobulin(g/dl)	12-17	9,2	7,8	6,9	8,2	9,3
Platelet Count ($10^3/\mu l$)	150-440	147	136	84	109	199
Creatinine (mg/dL)	0-1,2	0,78	1,1	3,2	4,81	7,19
Albumin (mg/dL)	3,5-5,4	1,6	1,5	2,4	2,5	4,3
Alanine Aminotransferase (U/L)	10-40 U/L	12	9	14	18	27
Lactate Dehydrogenase (U/L)	0-248 U/L	141	319	376	340	232
Urine protein (mg/day)	0-150	11059	-	-	18270	-

BACKGROUND: Thrombotic microangiopathy (TMA) is one of the most important complications in pregnant patients with chronic kidney disease (CKD) causing clinical deterioration. However, little is known about the pregnancy course in women with Alport syndrome (AS).
CASE: A 28-week pregnant, 22-year-old woman was admitted to our clinic because of widespread edema. Her medical history was notable only for hearing impairment. On examination, vital signs were normal except for the blood pressure (150/90 mmHg). There were diffuse crackles at the lung bases, and 3+ pitting edema in both legs. Lab results revealed heavy proteinuria with 11 gr/day and isomorphic erythrocytes with granular casts in microscopic urine examination. An emergency c-section was performed due to severe preeclampsia at 30 weeks' gestation.
After delivery, her edema did not improve, serum creatinine and lactate dehydrogenase levels elevated, anemia and thrombocytopenia developed (Table 1). Additional tests revealed negative Coombs test, schistocytes on peripheral smear and normal ADAMTS13 level. There was no pathology in serological studies.

She received four sessions of plasmapheresis therapy, and with the diagnosis of aHUS, eculizumab therapy was started. Despite improving thrombocytopenia and anemia, serum creatinine levels continued to rise and her urine output decreased. A kidney biopsy was performed (Figure 1). In the light microscopy, 11 of 15 glomeruli had circumferential cellular crescents and 4 had partial cellular crescents. The sample had no findings consistent with TMA. No staining was seen with IgG, IgA, IgM, C3, C1q, κ and λ in immunofluorescence.



Further evaluation of hearing impairment revealed bilateral sensorineural hearing loss. A homozygous mutation was identified on COLA4 gene, while homozygous polymorphism on complement factor H (CFH) c.1204C>T and heterozygotic polymorphisms on CFH c.2808G>T and c.3148A>T were revealed.
After discharge, her kidney function remained poor requiring maintenance hemodialysis despite 6 months of eculizumab therapy.
DISCUSSION: Alport syndrome is a genetic disease with the triad of hematuria, sensorineural hearing loss, and ocular symptoms due to the defect in the synthesis of α3, α4 and α5 chains of Type 4 collagen. The increase in proteinuria, hypertension and the presence of CKD are shown as poor prognostic factors for both maternal and fetal health in pregnant women with AS.
However, crescentic glomerulonephritis is not the classical biopsy finding of AS. In a few studies, crescents in AS have been reported to correlate with rapid disease progression.
There is increasing knowledge that the complement system is involved in the pathogenesis of pauci-immune crescentic GN. High plasma c3a, c5a, c5b-9, Bb and low plasma properdin levels were found to show alternative complement activation and correlate with disease activity in pauci-immune crescentic GN patients. Few reports show that anti-complement therapies might be an option in these cases. Although our case's kidney functions did not improve on eculizumab, we conclude that the polymorphisms in the complement genes may have induced crescent formation in the presence of pregnancy and abnormal glomerular structure due to AS.
CONCLUSION: Here we presented a case with AS complicated by aHUS and crescentic GN. Given this complex combination of rare causes of acute kidney injury, detailed clinical evaluation is of great importance in the evaluation of acute kidney injury during pregnancy.