10-28-2021

Case Report. Cryoglobulin Hyaline-thrombi Associated Acute Jejunitis in A Patient with Type 2 Cryoglobulinemic Glomerulonephritis

Y Al-Othman
Beaumont Health Resident

Z Qu
Beaumont Health

P Zhang
Beaumont Health

Recommended Citation

Al-Othman Y, Qu Z, Zhang P. Case Report. Cryoglobulin Hyaline-thrombi Associated Acute Jejunitis in A Patient with Type 2 Cryoglobulinemic Glomerulonephritis. American Journal of Clinical Pathology, 2021 October 28; 156(Supplement 1):S153, https://doi.org/10.1093/ajcp/aqab191.326

kidney disease). GATA3 nuclear stain was graded as negative (absent stain), equivocal and positive (< 5 and > 5% cells, respectively). Details of their GATA3 nuclear expression was analyzed for identifying their tubular segmental origins.

Results (if a Case Study enter NA): In 10 normal renal parenchyma, GATA3 was positive in mesangial cells, distal tubules, and collecting ducts, but was negative in the proximal tubules and loop of Henle. The cystic lining of glomerulocystic renal disease was stained negatively for GATA3 (proximal tubular origin), whereas pediatric and adult variants of polycystic kidney diseases was positive for GATA3 staining (distal tubular origin). 1/10 ten clear cell RCC and papillary RCC showed focal positive GATA3 stain. GATA3 showed weakly positive staining in some oncocytomas (4/11) and some chromophobe RCC (4/11), indicating that they might be derived from the junctional segment between the loop of Henle and the distal tubules. By contrast, all clear cell papillary RCC (distal tubule origin) were diffusely positive.

Conclusion: Our results indicate that GATA3 is a useful immunohistochemical marker to determine the developmental origin in the specific renal tubular segment for the majority of renal mass lesions. Thus, it may be useful for routine differential diagnosis of these lesions.

Case Report. Cryoglobulin Hyaline-thrombi Associated Acute Jejunitis in A Patient with Type 2 Cryoglobulinemic Glomerulonephritis.

Y. Al-Othman,[1] Z. Qu,[1] P. Zhang[1]; [1]Pathology, Beaumont Health, Bloomfiled Hills, Michigan, UNITED STATES

Introduction/Objective: Only one prior case report indicates that mixed positive cryoglobulin in serum can be associated with intestinal vasculitis (Annals of Internal Medicine, 1974).

Methods/Case Report: We report a 63-year old man with history of positive serum cryoglobulin and hepatitis-C 4 years ago and membranoproliferative pattern of glomerulonephritis with possible cryoglobulin type of deposits by electron microscopy on renal biopsy. After treatment, his hepatitis C became negative. But he was recently found to have monoclonal IgM-kappa and positive cryoglobulin in his serum, and the concurrent renal biopsy showed membranoproliferative pattern of glomerulopathy with many hyaline-thrombi (eosinophilic vascular occlusions with no lamination, inflammatory cells or nuclear debris) in the glomerular capillary loops (Figure, left panel). Both immunofluorescent and electron microscopy confirmed a mixed IgG polyclonal and IgM monoclonal type 2 cryglobulinemic glomerulonephritis. The patient also developed abdominal pain and underwent intestinal endoscopy with biopsy. His jejunal biopsy revealed neutrophil infiltration into glands and surface epithelium, with superficial sloughed epithelial cells, consistent with acute jejunitis with features of ischemic etiology. In addition, hyaline-thrombi were identified in the submucosal vessels with surrounding vasculitis (Figure, right panel); the central part of thrombi was morphologically similar to that found in glomerular capillary loops. Therefore, we conclude that cryoglobulin associated hyaline-thrombi were the most likely etiology to cause the acute ischemic jejunitis in this patient.

Results (if a Case Study enter NA): NA

Conclusion: NA

Recurrent Focal Segmental Glomeruloscleosis Progressing to Collapsing Glomerulopathy in Renal Graft of an Autopsy study.

C. Thorburn,[1] K.J. Jabbar,[1] W. Li,[1] H. Kanaan,[1] P. Zhang[1]; [1]Pathology, Beaumont Hospital, Oak Park, Michigan, UNITED STATES

Introduction/Objective: Collapsing glomerulopathy (CGN) mainly occurs in patients of African descent because a majority of these patients have APOL-1 gene mutations that results in damage of terminally differentiated podocytes, diffuse fusion of foot processes, and podocyte hyperplasia. Idiopathic FSGS is associated with high rates of recurrent FSGS in renal transplants and can be seen in patients with APOL-1 gene mutations as well, but recurrent FSGS progressing to CGN is not reported. Here we report an autopsy case with renal transplant showing recurrent FSGS progressing to CGN.

Methods/Case Report: Our patient was a 32 year old African American man who had a native renal biopsy which showed primary FSGS (with no infectious history) 8 years ago. Last year he received a renal transplantation (complex donor kidney from a deceased 25 year old man with pre-mortem serum creatinine (sCr) at 0.7 mg/dl). His initial post- transplant sCr level was as low as 1.17 mg/dl. However, in 4 months his sCr went up and he began to have higher levels of proteinuria. Sequential biopsies indicated that the patient developed a recurrent FSGS that progressed to show features of CGN. In his autopsy kidney graft, approximately 50% of glomeruli show collapsed loops with various degrees of hyperplasic podocytes, confirmed by positive CD133 staining (a progenitor cell marker). In addition, the hyperplastic podocytes lost WT-1 expression and were positive for Ki-67 staining. Distal tubules showed obvious cystic dilation. Overall findings were consistent with a severe form of CGN.

Results (if a Case Study enter NA): NA

Conclusion: The clinical presentation of recurrent FSGS progressing to collapsing FSGS in our patient suggests that CGN and idiopathic FSGS may share a common pathophysiologic mechanism of disease.

DOI: 10.1093/ajcp/aqab191