Unmasking a Glomerular Lesion
Sameer Alqassimi1,2
1Jazan University Faculty of Medicine, Jazan, Saudi Arabia
2USF Health Morsani College of Medicine, Tampa, FL, United States

DOI: 10.36348/sjm.2020.v0506.001 | Received: 25.05.2020 | Accepted: 06.06.2020 | Published: 14.06.2020

*Corresponding Author: Sameer Alqassimi

Abstract

Membranous-like glomerulopathy with masked IgG-κ deposits (MGMID) is a new aspect in the renal pathology filed which required antigen retrieval on formalin-fixed paraffin-embedded tissue to detect the immunoglobulin by immunofluorescence. Few cases were reported, the etiology is unknown, but most of the affected patients were young and had autoimmune phenomena such as inflammatory arthritis or hemolytic anemia. I am reporting a case with MGMID.

Keywords: glomerulopathy, (MGMID), pathology, immunoglobulin.

INTRODUCTION

29 YO Hispanic female without significant medical history, her baseline creatinine 0.8 mg/dL. The patient initially presented with a history of upper respiratory tract infection, work-up showed abnormal labs. She diagnosed with AKI, as she found to have a Cr of 2.8 mg/dL. Further workup revealed proteinuria of 12 g daily. All serology work-up including ANA and ANCA were negative and complement levels were normal. SPEP/UPEP/ Kappa/Lambda Light Chains: not suggestive of monoclonal gammopathy. The repeated Basic metabolic profile showed a Cr of 3.8, so she admitted to the Hospital for possible RPGN. A kidney biopsy was pursued and it showed: Crescentic GN, with membranous-like glomerulopathy with masked IgG-κ deposits (MGMID). She received plasmapheresis x 3 treatments + Solumedrol pulse dosing and Rituximab. One week after discharge patient returned to the hospital with fever/chills and SOB. She started on treatment for Hospital-acquired pneumonia, her respiratory symptoms deteriorated and she got intubated and she developed ARDS. Bronchoscopy with BAL suggested Rhino and Metapneumovirus [1].

She was treated for RPGN by solumedrol as her Cr worsened from 2.8 mg/dL to 3.6 mg/dL. Her renal function deteriorated, and she was started on CVVHD, she was anuric with elevated BUN and Cr, transitioned to Conventional hemodialysis. After almost a month, she began producing urine but has not recovered renal function to baseline. The patient then discharged on a tapering dose of steroid, ACE inhibitor, and spironolactone. Serum creatinine stabilized ~ 2.4 mg/dL and proteinuria improved to 5.4 g/day. The patient denied repeating renal biopsy or start on CellCept [2].

The histological features are most consistent with membranous-like glomerulopathy with a masked IgA kappa deposit. It was described in 14 patients that are indistinguishable from MN by light microscopy and electron microscopy. However, standard immunofluorescence microscopy was negative for the typical granular deposition of IgG. Only after the formalin-fixed tissue was digested with pronase were IgG deposits "unmasked." Figure-1 Also, all IgG deposits consisted of IgG-kappa and not IgG-lambda. Those patients tested showed no evidence of paraproteins. The etiology is currently unknown and future studies are needed to better understand pathogenesis and treatment of this entity [3].
Fig-1: Immunofluorescence findings from membranous-like glomerulopathy with masked IgG-j deposit (MGMID) (A) Glomeruli stain negative for IgG by routine immunofluorescence on fresh tissue and (B) positive on paraffin-embedded tissue after pronase digestion

REFERENCES