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Relapsing HCV Associated Glomerulonephritis Despite Sustained Virologic Response (SVR) to Direct-acting Antivirals (DAA)

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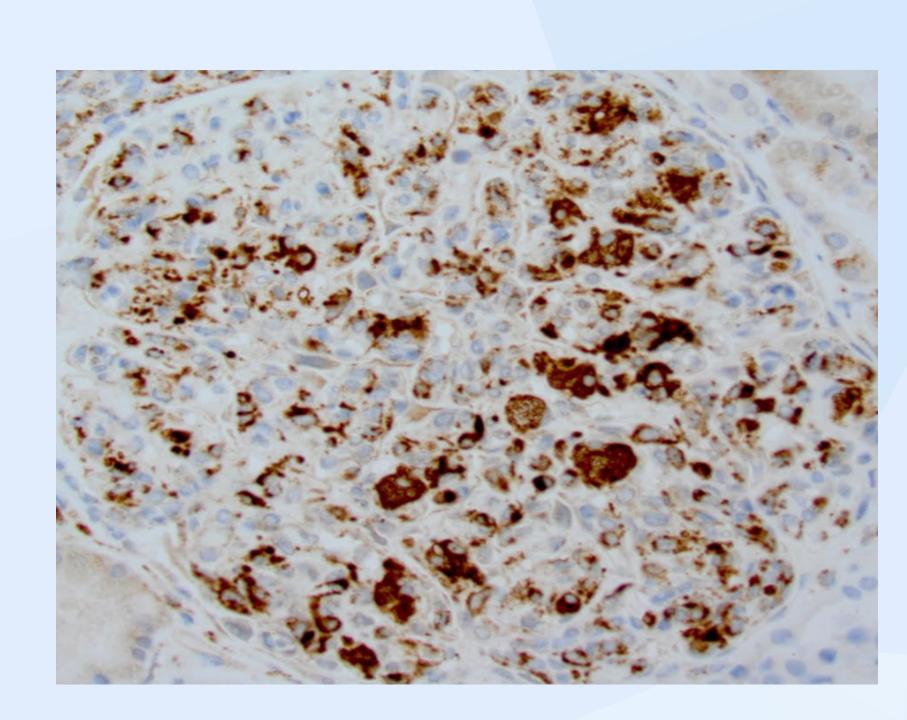
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INTRODUCTION

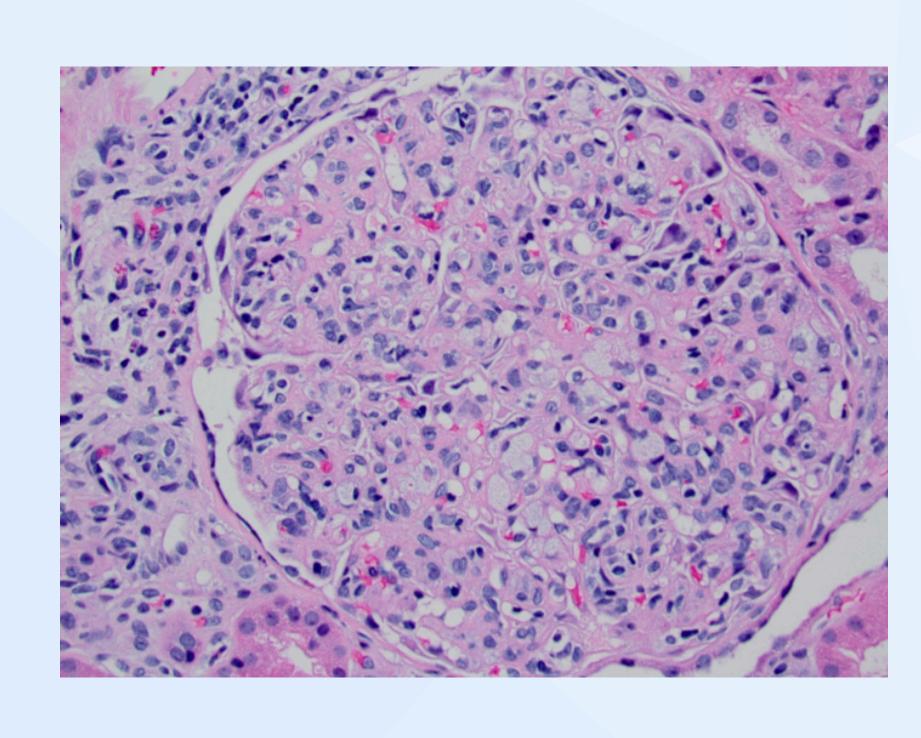
Hepatitis C is a common disease with an increasing incidence in the US. It is closely associated with type II mixed cryoglobulinemia (MC) and its complication of cryoglobulinemic vasculitis (CryoVas). HCV-associated cryoglobulinemic glomerulonephritis (HCV-CryoGN) occurs in 10-35% of those with CryoVas.

CASE PRESENTATION

- A 59-year-old female presented with AKI & proteinuria. In 2011 she was diagnosed with HCV-CryoGN. Complete remission was achieved with IV Cyclophosphamide and steroids. SCr stabilized at 1.4 mg/dL and proteinuria of 0.3 g/g. In 2013 she was treated with DAAs for HCV and attained SVR.
- In September 2017, urinalysis showed proteinuria UPCR 3.5 g/g and microhematuria. Labs revealed SCr 2.5mg/dL, elevated rheumatoid factor (RF) titers 334 IU/L with positive cryoglobulin screen for type II MC.
- Serologic work up for ANA, ANCA and anti-GBM Ab were all negative with normal SPEP, C3 &C4 levels. HCV RNA was undetectable.

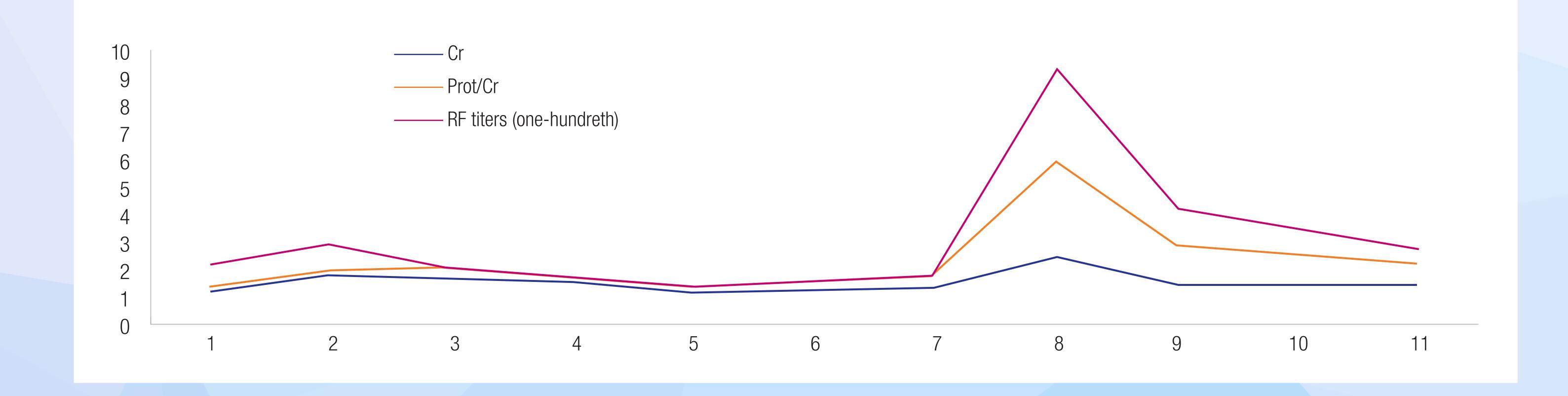


CD 68 STAIN WITH ABUNDANT INFILTRATING MONOCYTES A COMMON FEATURE OF CRYOGLOBULINEMIC GN DUE TO MCP-1 CHEMOKINE PRODUCING CELLS.



DIFFUSE PROLIFERATIVE GN WITH ABUNDANT INFILTRATING MYOCYTES.

CORRELATION OF RENAL FUNCTION WITH RF TITERS
AFTER RITUXAN THERAPY



- Renal biopsy revealed diffuse proliferative GN with abundant infiltrating monocytes. Immunofluorescence was positive for IgM(+2),C3(+2) & IgG(trace). Electron microscopy noted segmental sub-endothelial and mesangial deposits.
- Treated with rituximab (RTX) and prednisone, followed by RTX maintenance therapy. Treatment gradually improved the renal function, proteinuria, and RF levels.

DISCUSSION

Reports of HCV-CryoGN despite SVR after DAA therapy are rare. DAAs lead to SVR in the overwhelming majority of HCV patients, but are less consistent in treating CryoVas. A pathological explanation is mixed cryoglobulinemia syndrome is an immune-mediated process that becomes independent from the triggering virus. Rituximab treatment has been found to deplete bone marrow B-cell clonal expansion resulting in a decrease of serum cryoglobulin and RF, correlating with improved treatment success rates with few adverse events.

CONCLUSION

HCV-CryoGN can occur in the absence of ongoing viral replication due to persistence of RF-producing memory B-cell clones. Combining the efficacy of DAAs in eradicating HCV infection along with the immunomodulatory effect of RTX can lead to improved treatment of HCV-CryoVas.

REFERENCES

Roccatello, Dario, et al. "The Challenge of Treating Hepatitis C Virus-Associated Cryoglobulinemic Vasculitis in the Era of Anti-CD20 Monoclonal Antibodies and Direct Antiviral Agents." Oncotarget, vol. 8, no. 25, 2017, doi:10.18632/oncotarget.16986.

Santoriello, Dominick, et al. "Persistent Hepatitis C Virus-Associated Cryoglobulinemic Glomerulonephritis in Patients Successfully Treated With Direct-Acting Antiviral Therapy." Kidney International Reports, vol. 3, no. 4, 2018, pp. 985–990., doi:10.1016/j.ekir.2018.03.016.



