Membranous Glomerulopathy Associated with Rheumatoid Arthritis May Respond to Rituximab

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Abstract

Membranous glomerulopathy is an uncommon extra-vascular manifestation of rheumatoid arthritis which need not be associated with prior DMDARD (disease-modifying antirheumatic drug) therapies (Clin Rheum 1996, 15, 385). We observed a patient with an 8 year history of symptomatic systemic secondary to biopsy-proven membranous glomerulopathy. Signs and symptoms of his disabling kidney disease included renal insufficiency, massive proteinuria (22 grams to 7.4 grams/24 hours) and a reduction in diuretic therapy. This was accompanied by a corresponding decrease of urinary gm/dl and normalized (3.7 gm/dl) one month after the second course of treatment.

Background

Renal complications of rheumatoid arthritis include membranous glomerulonephritis, secondary amyloidosis, a focal, mesangial proliferative glomerulonephritis (GN), secondary amyloidosis, and analgesic nephropathy[1, 2, 3]. Historically, membranous GN in patients with rheumatoid arthritis was commonly due to disease modifying treatment (gold and penicillamine) [1, 2, 3].

However as early as 1977, it was suggested that the development of membranous GN could be a consequence of rheumatoid arthritis [4, 5].

Membranous changes are a consequence of subepithelial immune complexes (immunoglobulin and complement) depositing in the glomerular basement membrane resulting in the development of nephrotic range proteinuria [1, 3].

Membranous glomerulonephritis is an uncommon extra-vascular manifestation of rheumatoid arthritis which need not be associated with prior DMDARD (disease-modifying antirheumatic drug) therapies (Clin Rheum 1996, 15, 385). We observed a patient with an 8 year history of symptomatic systemic secondary to biopsy-proven membranous glomerulopathy. Signs and symptoms of his disabling kidney disease included renal insufficiency, massive proteinuria (22 grams to 7.4 grams/24 hours) and a reduction in diuretic therapy. This was accompanied by a corresponding decrease of urinary gm/dl and normalized (3.7 gm/dl) one month after the second course of treatment.

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Clinical Summary

1995: X, a 39yo male construction worker, presents to his PCP with c/o bilateral hand arthralgias. Over the next 2 years he develops arthralgias in his feet, is diagnosed with rheumatoid arthritis and started on prednisone. 1997: X is diagnosed with Rheumatoid Arthritis. Methotrexate is added to his prednisone. 1998: Symptoms have not responded well to treatment. Methotrexate is discontinued and Leufolamide is started. 2001: Symptoms now include arthralgias in the neck and shoulders. X is referred to Dr John Pixley, UNR Rheumatology. The diagnosis of RA is confirmed by routine platelet count (fig 1), clinical criteria (eg. rheumatoid nodules overlying 4th metatarsophalangeal joint), and serologic criteria (rheumatoid factor elevated at 204). 2002: Plaquenil is added to Prednisone and Leufolamide. 2003: X now develops HTN and is started on Diovan. His Prednisone is discontinued and Etanercept is started. His rheumatoid factor is still elevated at 209. Early 2004: X states that arthralgias are now well controlled, but he develops lower extremity edema and has a 50 lb weight gain to 274 lbs. Late 2004: His Albumin level decreases to 1.7g/dL (3.5 – 5.5) and urine protein is 24,920mg/24hr. Late 2005: X is now only on Prednisone 5mg QD, Lasix 40mg QD, and Zaroxolyn PRN. Arthralgias continue to be well controlled, edema is resolved, weight is stable at 274 lbs.

Conclusions

Rituximab therapy was associated with low levels of circulating serum immunoglobulins (IgM & IgG) and CD20 and CD21 surface bearing lymphocytes 16 weeks after fatal treatment (table 1).

References

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