Membranoproliferative Glomerulonephritis Preceding Non-Hodgkin Lymphoma Recurrence: A Case Report

Abstract

Introduction: Membranoproliferative glomerulonephritis has been reported to occur in association with non-Hodgkin’s lymphoma but there is few information about glomerulonephritis response to the treatment of non-Hodgkin’s lymphoma.

Case Presentation: A 67 years-old caucasian female admitted to outpatient clinic with peripheral edema complaint. She had mild proteinuria and microhematuria on admission and tuberculosis, non-Hodgkin lymphoma (cured), diabetes mellitus and hypertension history. Her renal biopsy resulted as membranoproliferative glomerulonephritis and after investigations she got recurrent non-Hodgkin lymphoma diagnosis. After successful treatment of her lymphoma her nephrotic syndrome clinic regressed.

Conclusion: Membranoproliferative glomerulonephritis has been known to be associated with non-Hodgkin’s lymphoma. There is limited information available concerning the effects of treatment of non-Hodgkin’s lymphoma on the progression of non-Hodgkin’s lymphoma associated membranoproliferative glomerulonephritis. We report a rare case of non-Hodgkin’s lymphoma associated membranoproliferative glomerulonephritis, that continued to be in remission after chemotherapy treatment of lymphoma.

Background

Membranoproliferative GN (MPGN) accounts for approximately 7%–10% of biopsy-confirmed GN [1]. Clinical presentation varies between mild hematuria/proteinuria and nephrotic syndrome. MPGN can be associated with infections, autoimmune diseases and paraproteinemias [2]. MPGN has been associated with Non-Hodgkin’s lymphoma [3], besides there is a few information concerning the effects of treatment of NHL on the clinically associated MPGN.

This report describes a patient who was diagnosed with non-Hodgkin lymphoma after presentation with nephrotic syndrome. Nephrotic syndrome findings of the patient regressed after treatment of lymphoma with chemotherapy.

Case Presentation

A 67 years-old caucasian female patient admitted to hospital with lower extremity edema and dyspnea. She had 2(+) pitting edema on bilateral legs, her chest examination revealed bilateral basal crackles. She had tuberculosis (diagnosed and treated at 1979 and 2012), non-Hodgkin lymphoma (diagnosed at 2006, treated with 6 cycles of chemotherapy), diabetes mellitus (for 25 years) and hypertension (for 6 months) history. She had 4.9 gr/day proteinuria, microscopic hematuria and hypoalbuminemia with normal creatinine value at admission. Her ANA and ANCA results were negative, Erythrocyte Sedimentation Rate (ESR) was 81, CRP: 1,51 mg/dL, C3: 86, C4: <4, Cryoglobulin resulted as 2(+). Renal biopsy was performed and resulted as membranoproliferative glomerulonephritis with positive C1Q, C3C, IgM, IgA, Kappa immunofluorescin stain. Light microscopic findings of glomerulus showing, endocapillary hypercellularity, and double contours. H&E staining (magnification, ×400).

Figure 1: Renal Biopsy – Light microscopic findings of glomerulus showing, endocapillary hypercellularity and double contours, H&E staining (magnification, ×400).
lymphoma-associated glomerulonephritis [5,6]. Chronic hepatitis C virus infection is currently the most common cause of secondary MPGN and is often associated with cryoglobulinemia. Although HCV serology was negative in this patient, any condition associated with persistent immunological stimulation can result in secondary cryoglobulinemia. Cryoglobulins were positive in our patient at the time of the diagnosis of MPGN and was positive again after the resolution of glomerulonephritis such that cryoglobulinemia can be excluded as a pathogenic mechanism in this patient. Also paraproteins were not detected in our patient.

There is limited information available concerning the effects of treatment of NHL on the progression of NHL associated MPGN. Alshayeb et al reported one patient whom glomerulonephritis continued to be in remission during eleven years of follow up after initial chemotherapy treatment of lymphoma. Moulin, et al. reported one patient with NHL who developed complete remission of MPGN after treatment with chlorambucil and a second patient who showed significantly improved renal function after treatment with MOPP (nitrogen mustard, vincristine, procarbazine, prednisone). Stokes, et al. described a patient with low-grade B-cell lymphoma and MPGN, who responded by improvement in renal function and diminished proteinuria after treatment with oral prednisone.

Conclusion

Secondary membranoproliferative glomerulonephritis can be observed in non-Hodgkin lymphoma patients but there are few reports about clinical results of lymphoma treatment. As we observed clinical remission by successful treatment of lymphoma it should be kept in mind that glomerulonephritis patients, whatever the type is, should be investigated for possible secondary causes.

Consent

The patient that we represent has given her informed consent for the publication of this case report.

Reference