CASE REPORT

Transformation of Relapsed Membranous Nephropathy to proliferative Lupus Nephritis: Case Report

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ABSTRACT

SLE is a dynamic disease. Lupus nephritis occurs in 40%-70% of patients. Renal biopsy is performed to know various classes of lupus nephritis. In several studies of lupus nephritis, type IV nephritis is the most common [approximately 40%] whereas type III and type V follow with an approximate frequency of 25% and 15%. Transformation from one class to another can occur, spontaneously and as a result of treatment. Prognosis is worse when membranous and proliferative changes coexist. In Pub Med search from 1999-2015, 9 patients of class V have changed to mixed (IV+V) and none out of 6 patients in study by Narveizetal: to class (IV + V), though in one case transformation to class (111/1V+V) was reported. Our case report transformed from relapsed class V to mixed class (IV+V)

Keywords: *SLE, Lupus Nephritis.*

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INTRODUCTION

Renal involvement occurs in 40%-70% of SLE patients. Generally renal involvement tends to occur within the first 2 years of SLE with its frequency decreasing significantly after the first 5 years of disease. Almost half of patients present with asymptomatic urine abnormalities, such as hematuria and proteinuria. Nephrotic or nephritic syndrome or both also may be observed in 30% patients. Rarely [<5%], patients may present with chronic renal insufficiency, rapidly progressive glomerulonephritis or a pulmonary-renal vasculitis syndrome. The standard 1982 World Health Organization (WHO) classification has been revised to provide a clearer and unequivocal description of various lesions and classes of lupus nephritis [1]. In several studies of lupus nephritis, type IV nephritis is the most common [approximately 40%] whereas type III and type V follow with an approximate frequency of 25% and 15%. Transformation from one class to an other can occur, spontaneously and as a result of treatment. Prognosis is worse when membranous and proliferative changes coexist.

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CASE REPORT

SLE a dynamic disease. We report a case of relapsed Membranous [non proliferative LN] to proliferative lupus nephritis which could be considered as a blessing in disguise.

25 year female presented with class V LN (Fig: 1) and was managed with Tacrolimus and prednisone [Nov 2015]. By 5 months of treatment [March 2016] patient was in remission and continued to be in remission for 19 more months [Oct 2017]. In Nov 2017 patient relapsed with rising proteinuria. Tacrolimus was stopped as patient by now had completed 2 years of treatment and relapsed while on treatment, patient was continued on 10 mg prednisone. Proteinuria worsened over 4 months [Nov 2017 to Feb 2018]. In March 2018

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patient presented with active urinary sediment. Repeat renal biopsy in 2018 April revealed class (IV + V) lupus nephritis (Fig: 2). Patient was managed with cyclophosphamide [NIH protocol] for 6 months and her proteinuria improved from 7.3 grams per day to 900 mg. Active urinary sediment continued.

Patient was given 3 additional monthly doses of cyclophosphamide and after 9th dose in Dec 2018, patient is in complete remission. Now planned for 3 monthly dose of cyclophosphamide as maintenance part of NIH protocol.

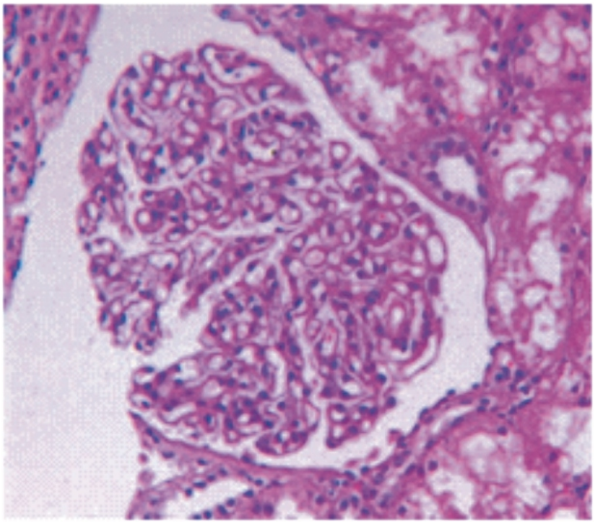


Fig.1. Light micrograph of kidneybiopsyspecimen showing features **of** Membranousgloerulonephritis.

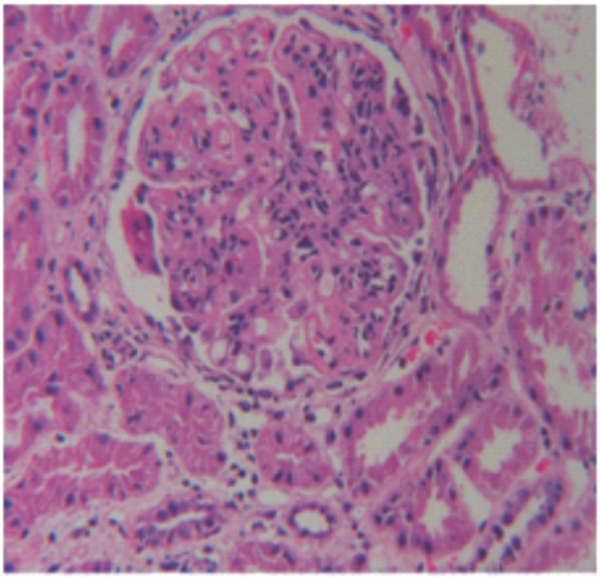


Fig.2. Light micrograph of kidney biopsy specimen showing features of Membranous nephritis and Diffuse lupus nephritis

DISCUSSION

SLE with Lupus nephritis has higher mortality than those without lupus nephritis. Renal involvement occurs in 40% - 70% of SLE patients. Renal biopsy is performed to know the class of LN, which is important to know as management differs in various classes of lupus nephritis.

Histologic classification is done as per ISN/Renal pathology society, 2003[1].

Class III and IV are proliferative and class V is membranous [non proliferative]. Relapses have been reported in 27%-66% patients of LN [2, 3, 4, 5] after complete remission as in our case. Histological transformation has been reported in 40%-76% of case of Lupus Nephritis.[6 to 14]

The frequency of pathological conversion in class V is lower, reported in 33% [2 cases out of 6] in the retrospective study by Javier Narveiz et al: and 43% in the literature review. [PubMed 1990-2015][15]. In the study by Narveizetal, comprising 54 patients of repeat renal biopsy, out of 6 patients of class V, change from class V to IV occurred in one case, in another case mixed(III/IV+V) occurred and 4 remained in class V. 9 cases of class v transformed to mixed class(IV +V) in literature (Pub Med 1990-2015)[15]. Our case has changed from class V to class [IV + V] and is thus 10th case reported tilldate.

To document the change in class of Lupus Nephritis is important as treatment regimens for Proliferative Lupus Nephritis is different from Membranous Lupus Nephritis (for example NIH regimen & MMF versus Pont celli regimen and tacrolimus). In addition early risk of renal damage from Membranous Lupus Nephritis is less as compared to proliferative Lupus Nephritis. However, such patients are at risk of consequences of Prothrombotic state secondary to Nephrotic Syndrome. It has been reported that >10% of patients of pure Mebranous Lupus Nephritis will progress to end stage renaldisease.

Since Membranous lupus nephritis does not usually respond to treatment as is the case with proliferative lupus nephritis, Our case is a unique case as initially she responded to treatment and later relapsed on treatment. In this scenario treatment regimens were limited. To her luck proliferative component appeared which responded to NIH regimen as usually expected, therefore this conversion we consider it as blessing in disguise.

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