i. Declaration

I, Mercy Juliet Mkandawire declare that this research report is my own unaided work. It is being submitted for the degree of Master of Medicine in Internal Medicine in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other University.

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Mercy J. Mkandawire

_____day of January, 2015

ii. Publications and presentations arising from this study

Abstract accepted for poster presentation at World Congress of Nephrology 2015.

iii. Abstract

Available literature on primary minimal change nephropathy (MCN) predominantly reflects Western and Asian populations, with little data describing the disease in black patients. We therefore studied the demographic and clinical profile of patients presenting with MCN at the Witwatersrand Academic Complex.

The results of 1,618 renal biopsies performed at our centre between 2001 and 2010 were reviewed; 47 patients with MCN were identified (prevalence of 2.9%).The patients were predominantly of black race (83%), the male : female ratio was 1.04:1 and the mean age was 31.8± 12.1 years. The majority of patients (90%) fitted the criteria for the nephrotic syndrome. 18% of patients had elevated serum creatinine levels and 6.4% had associated hypertension. An association was found between gender and age; with a predominance of males amongst younger patients (less than 30 years) compared to a predominance of females amongst the older patients. Records of treatment and outcomes were available for 28 patients, all of whom received initial corticosteroid therapy (average dose of prednisone 0.8mg /kg/day). The average duration of therapy was 29 weeks. 57.1% achieved remission with no further relapse. No clinical or demographic parameters were identified that predicted response to corticosteroid therapy. 39.2% of patients had probable steroid dependance/resistance. Of these patients, 58.3% had a single relapse and 41.7% had double relapses. The mean time to relapse was 27.8±19.4 months with 83% of patients relapsing within 48 months; the mean time to relapse was longer in males (39.3±17.5 months) as compared to females who relapsed in 18±16.9 months, which was significant at the 10% level ($P = 0.09$).

MCN is rare amongst Black Africans but should be considered in the differential diagnosis of nephrotic syndrome. The disorder in these patients may be less responsive to corticosteroids and a longer course of therapy may be required to induce remission. Males may be more likely to remain in remission for a longer time period.

iv. Acknowledgements

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viii. Nomenclature

ACE – Angiotensin Converting Enzyme

ARB – Angiotensin Receptor Blocker

CMJAH – Charlotte Maxeke Johannesburg Academic Hospital

FP – Foot Process

FSGS – Focal Segmental Glomerulonephritis

GBM – Glomerular Basement Membrane

GPF – Glomerular Permeability Factor

HJH – Helen Joseph Hospital

HIV – Human Immunodeficiency Virus

IgAN – IgA Nephropathy

MN – Membranous Nephropathy

MCGN – Mesangiocapillary Glomerulonephritis

MPGN – Mesangioproliferative Glomerulonephritis

MCN - Minimal Change Nephropathy

MMF – Mycophenolate Mofetil

NHLS – National Health Laboratory Service

NSAIDS – Non Steroidal Anti Inflammatory Drugs

SLE – Systemic Lupus Erythematosus

UPCR – Urine Protein:Creatinine Ratio