

MEMBRANOUS GLOMERULONEPHRITIS, A CLINICO-PATHOLOGICAL STUDY

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By

Rania Helmy Rashad Mohamed

M.B, B.Ch., Faculty of Medicine, Alexandria University

Under Supervision of

Prof. Dr. Amir Ahmed Fouad Sedky

Professor of Pathology

Faculty of Medicine

Ain Shams University

Prof. Dr. Nadia Galal El-Hefnawy

Professor of Pathology

Faculty of Medicine

Ain Shams University

Faculty of Medicine

Ain Shams University

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List of Abbreviations

ACE	Angiotensin Converting Enzyme
AMGN	Advanced Membranous Glomerulo – Nephritis
ANOVA	Analysis of Variance test
ARB	Angiotensin Receptor Blockers
ASCT	Allogeneic Stem Cell Transplantation
ASUH	Ain Shams University Specialized Hospital
BCL	Bucillamine
C3	Complement 3
CICs	Circulating Immune Complexes
CL	Capillary Lumen
CR	Complete Remission
DAB	Diaminobenzidine tetrachloride
EM	Electron Microscope
EMGN	Early Membranous Glomerulo-Nephritis
EMT	Epithelial Mesenchymal Transition
ESKD	End Stage Kidney Disease
ESRF	End-Stage Renal Failure
FSGS	Focal Segmental Glomerulo-Sclerosis
GBM	Glomerular Basement Membrane
GECs	Glomerular Visceral Epithelial Cells
GN	Glomerulo-Nephritis
H & E	Haematoxylin and Eosin Stain
HBcAg	Hepatitis B core Antigen
HBeAg	Hepatitis B envelope Antigen
HBsAg	Hepatitis B Surface Antigen

HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HTN	Hypertension
IF	Immuno – Fluorescence
IgA	Immunoglobulin A
IgG	Immunoglobulin G
IgM	Immunoglobulin M
IVIG	Intra-Venous Immuno-Globulin
LM	Light Microscope
LMG	Lupus Membranous Glomerulonephritis
MAC	Membrane Attack Complex
MGN	Membranous Glomerulo-Nephritis
MHC	Major Histocompatibility Complex
MN	Membranous Nephropathy
MPGN	Membrano-Proliferative Glomerulo-Nephritis
N	Number
NEP	Neutral Endo-Peptidase
No.	Number
NS	Non Significant
PAS	Periodic Acid Schiff Stain
PDGF	Platelet Drived Growth Factor
PR	Partial Remission
RA	Rheumatoid Arthritis
RBCs	Red Blood Cells
Sig	Significant
SLE	Systemic Lupus Erythematosus

SNGFR	Single Nephron Glomerular Filtration Rate
SRNS	Steroid Resistant Nephrotic Syndrom
TGFβ	Transforming Growth Factor β
UTI	Urinary Tract Infection
VEGF	Vascular Endothelial Growth Factor
($\bar{X} \pm SD$)	Mean $\pm$ Standard Deviation
(X^2)	Chi-Square Test
WHO	World Health Organization

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Table (3). Homogeneous subtype of idiopathic MGN :

Case number	Age	Sex	Clinical picture	Blood pressure	Total urinary protein/day (gm/L/24 h)	Serum creatinine (mg/dL)	No. of glomeruli by L.M	Thickening of the glomerular capillary walls	No. of segmentally sclerotic glomeruli	No. of globally sclerotic glomeruli	Interstitiality by LM
Case 1	65	♂	- nephrotic syndrome	100/60	4	0.9	5	Mild	-	-	- mild tubulointerstitial reaction
Case 2	17	♀	- L.L oedema - Oedema of the face - Proteinuria	110/70	2.9	0.8	11	Mild	-	-	- Unremarkable
Case 3	25	♂	-Nephrotic syndrome	130/90	4	1.2	15	Mild	-	1	- mild tubulointerstitial reaction
Case 4	42	♂	- Hypertension - Proteinuria - L.L oedema	150/90	1.9	4.6	10	Mild	1	-	- mild tubulointerstitial reaction
Case 5	28	♂	-Nephrotic syndrome	110/70	4.4	1.2	24	Moderate	-	2	- mild tubulointerstitial reaction
Case 6	50	♀	- Nephrotic syndrome - Hypertension	140/90	4	4.4	3	Mild	-	-	- mild tubulointerstitial reaction
Case 7	32	♂	- Hypertension - Proteinuria	150/100	1.2	3.1	3	Mild	-	1	- mild tubulointerstitial reaction
Case 8	20	♂	- Nephrotic syndrome	120/80	3.5	0.9	9	Moderate	-	-	- mild tubulointerstitial reaction

♂: male

♀: female

Table (9). Heterogeneous subtype of idiopathic MGN :

Case number	Age	Sex	Clinical picture	Blood pressure	Total urinary protein/day (gm/L/24 hr)	Serum creatinine (mg/dL)	No. of glomeruli by LM	Thickening of the glomerular capillary walls	No. of segmentally sclerotic glomeruli	No. of globally sclerotic glomeruli	Interstitiality by LM
Case 9	23	♀	- Nephrotic syndrome	110/70	4	0.4	25	Moderate	-	-	- mild tubulointerstitial reaction
Case 10	14	♂	- Recurrent haematuria - Proteinuria	120/80	2.9	0.8	1	Moderate	-	-	- mild tubulointerstitial reaction
Case 11	37	♀	- Nephrotic syndrome	130/80	4.5	1.0	13	Irregular	-	-	- mild tubulointerstitial reaction
Case 12	46	♂	- Nephrotic syndrome - Hypertension	140/90	3.5	8.5	14	Moderate	-	-	- mild tubulointerstitial reaction
Case 13	69	♀	- Nephrotic syndrome - Hypertension	140/90	3.5	1.1	7	Moderate	-	1	- mild tubulointerstitial reaction
Case 14	36	♂	- Nephrotic syndrome	130/90	4.4	2.1	9	Moderate	1	-	- mild tubulointerstitial reaction
Case 15	49	♂	- L.L. oedema - Proteinuria	110/80	3	2.5	5	Moderate	2	-	- mild tubulointerstitial reaction
Case 16	42	♂	- Puffy eye lids - Hypertension - Proteinuria - Chronic renal failure	140/90	1.4	1.3	5	Moderate	-	-	- mild tubulointerstitial reaction
Case 17	30	♀	- Nephrotic syndrome	110/70	4	0.8	14	Moderate	-	-	- mild tubulointerstitial reaction
Case 18	27	♂	- L.L. oedema - Proteinuria - anaemia	120/80	1	1.2	8	Moderate	2	-	- moderate-severe tubulointerstitial reaction
Case 19	58	♂	- Nephrotic syndrome - Hypertension (difficult to control) - Proteinuria	140/90	9.1	1.3	3	Moderate-marked	-	-	- mild tubulointerstitial reaction
Case 20	47	♂	- Nephrotic syndrome - Hypertension	150/90	5	3.1	12	Moderate-marked	4	1	- mild tubulointerstitial reaction - moderate arteriosclerotic changes

Table (17). Secondary MGN.

Case number	Age	Sex	Clinical picture	Blood pressure	Total urinary protein/day (gm/ L/24 h)	Serum creatinine (mg/dL)	No. of glomeruli by L.M	No.of segmentally sclerotic glomeruli	No. of globally sclerotic glomeruli	Interstitial by LM
Case 21	45	♂	- Hypertension - Proteinuria - Chronic transplant nephropathy	150/90	2	2.6	13	-	1	- mild tubulointerstitial reaction - acute tubular necrosis
Case 22	10	♀	- Hypertension - Proteinuria - History of HBV	140/90	1.9	0.5	24	-	2	- mild tubulointerstitial reaction - Focal acute tubular necrosis
Case 23	30	♀	- Nephrotic syndrome - Hypertension - SLE	150/90	7.6	5.9	42	2	5	- mild tubulointerstitial reaction
Case 24	28	♂	- Nephrotic syndrome - Hypertension - SLE	140/90	3.5	4.8	11	-	-	- mild tubulointerstitial reaction
Case 25	51	♀	- Nephrotic syndrome - Hypertension - SLE - Renal transplant	150/100	4.1	5.9	13	-	5	- mild tubulointerstitial reaction
Case 26	28	♀	- Hypertension - Proteinuria - SLE	140/90	1	2.8	16	-	1	- mild tubulointerstitial reaction
Case 27	15	♀	- Nephrotic syndrome - Hypertension - SLE	140/90	8	8.2	14	3	-	- mild tubulointerstitial reaction
Case 28	10	♀	- Nephrotic syndrome - Hypertension - SLE - Abdominal pain, fever	140/90	5	4.8	10	-	-	- mild tubulointerstitial reaction
Case 29	5	♀	- Proteinuria - SLE - Bilateral pleural & Pericardial effusion	120/70	1.9	3.7	6	-	-	- mild tubulointerstitial reaction
Case 30	26	♂	- Hypertension on steroid therapy - Proteinuria - SLE - UTI	150/90	3	4.1	3	-	-	- mild tubulointerstitial reaction