

**Pattern of glomerulopathy diagnosed
at Ain Shams Specialized Hospital
(A 5-years retrospective study)**

Thesis

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By

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List of Abbreviations

Abb.	Full term
ANCA	Antineutrophil cytoplasmic antibody.
ARF	Acute renal failure.
AUA	Asymptomatic urinary abnormality.
CGD	Chronic glomerular diseases.
C-ANCAs	Cytoplasmic Anti-Neutrophil Cytoplasmic Antibodies.
CKD	Chronic kidney disease
CL	Cortical labyrinth.
CRF	Chronic renal failure.
DCT	Distal convoluted tubule.
DM	Diabetes mellitus.
DN	Diabetic nephropathy.
DNMG	De novo membranous glomerulopathy.
DSA	Donor-specific alloantibody.
EM	Electron microscopy.
ESRD	End-stage renal disease.
Fig.	Figure.
FPs	Foot processes.
FSGS	Focal and segmental glomerulo-sclerosis.
GBM	Glomerular basement membrane.
GFR	Glomerular filtration rate.
GN	Glomerulonephritis.
HAART	Highly active antiretroviral therapy.
HTN	Hypertension.
IDDM	Insulin dependent diabetes mellitus.
IgAN	IgA nephropathy.
IH	Immunohistochemistry.
IL	Interleukin.

List of Abbreviations (cont...)

Abb.	Full term
ISN/RPS	International Society of Nephrology/Renal Pathology Society.
KSA	Kingdom Saudi Arabia
LM	Light microscopy.
LN	Lupus nephritis.
MCD	Minimal change disease.
MesPGN	Mesangioproliferative glomerulonephritis.
MN	Membranous nephropathy.
MPGN	Membranoproliferative glomerulonephritis.
MR	Medullary rays.
NIDDM	Non-insulin dependent diabetes mellitus.
NS	Nephrotic syndrome.
NSAIDs	Non-steroidal anti-inflammatory drugs.
P-ANCAs	Perinuclear Anti-Neutrophil Cytoplasmic Antibodies.
PAN	Polyarteritis nodosa.
PGD	Primary glomerular diseases.
PGN	Proliferative glomerulonephritis.
PIGN	Postinfectious glomerulonephritis.
PLD	Partial lipoid dystrophy.
PSGN	Poststreptococcal glomerulonephritis.
RA	Rheumatoid arthritis.
RBC	Red blood cell.
RPGN	Rapidly progressive glomerulonephritis.
RPRF	Rapidly progressive renal failure.
SD	Slit diaphragm.
SGD	Secondary glomerular diseases.
Sig.	Significance.
SLE	Systemic lupus erythematosus.
TGF-beta	Transforming growth factor-beta.

ABSTRACT

Glomerulonephritis remains as a major cause of morbidity and mortality from renal disease in many parts of the world, particularly in the tropical and subtropical regions. According to several local registries and sporadic publications, it seems to be responsible for 23.2 to 58.4% of patients on regular dialysis in the tropics, compared to recent figures of around 6-8% in the United States and 7.5-19.6% in Europe. Its prevalence among dialysis patients in Egypt has been reported as 7.8% in 2008.

The incidence of biopsy proven GN varies in different geographical areas, as it is affected by socioeconomic condition, race, indication for renal biopsy and differences in genetic susceptibility and environmental exposure. Recent studies reported a changing pattern of incidence of GN in different parts of the world.

Our study aimed to obtain a comprehensive review of the incidence of biopsy proven glomerulonephritis in Ain Shams University Specialized hospital over a period of 6 years. We analyzed the clinical and pathological data of all percutaneous renal biopsies for medical renal disease submitted to the pathology and electron microscopy unit of Ain Shams University Specialized hospital from January 2005-December 2010 with a total of 1320 renal biopsies.

Keywords: Glomerulonephritis; subtropical regions

INTRODUCTION

The procedure of percutaneous kidney biopsy was established in 1951 by Iversen and Brun, and since then, it has played a fundamental role in diagnosis, management and assessment of the prognosis of various kidney diseases. The biopsy technique has remarkably improved over the past decades due to the use of ultrasonography as real-time imaging guidance as well as the development of automated biopsy gun devices, leading to significant decrease in the incidence of life-threatening complications (*Prasad et al., 2015*).

Identification of the pattern of glomeruolepathy in a specific geographical region is of essential importance regarding clinical, academic, and epidemiological aspects. It assists in the understanding of particular risk factors and subsequent planning for early detection and adequate control of glomerular diseases (*Onwubuya et al., 2016*).

Glomerulonephritis [GN] is considered as a significant cause of mortality and morbidity from renal disease in many parts of the world, mainly in the tropical and semitropical regions (*Barsoum, 2006*).

The incidence of glomerulonephritis differs according to the genetics and demographic features of the population. In addition, it differs according to environmental factors like

weather, as well as socioeconomic status and spread of infectious diseases (*Brophy et al., 2015*).

Racial factors seem to play a remarkable role, not only in influencing the incidence, but also in defining the pattern, severity and progression of the glomerular response (*Pazianas et al., 1991*).

Environmental factors may also participate as modifiers of the glomerular diseases in various geographical areas. The role of heavy metals, e.g. mercury, and hydrocarbons pollution is of specific attention (*Mayes, 1999*).

Etiology is a major contrast between GN in the tropical and non-tropical areas. Secondary forms of GN are much more prevalent in the tropics than in the industrialized countries (*Barsoum and Sitprija, 1996*).

Infection persists as an important cause of glomerular diseases in developing and under developed countries. Many of the infective agents have been recognized, such as HBV, HCV, Streptococcus, Schistosomiasis and Malaria (*Tang, 2009*).

In addition, the incidence of glomerular diseases varies according to the level of detection of urinary findings, and the biopsy rate which reflects the biopsy resources and the biopsy policy of the community (*Wirta et al., 2008*).