TITLE: Spectrum of renal biopsies: three-year data from a tertiary care center of eastern India.

Running head: Spectrum of renal biopsies from eastern India.

SUPPLEMENTARY DATA:

Materials and methods:

Renal biopsy procedure: As an institutional protocol, two cores of renal tissue were obtained with automated biopsy gun (16G × 16 cm for adults ≥ 18 years old and 18 G × 16 cm for patients < 18 years of age) under real-time ultrasonography (USG) guidance and subjected to light microscopy (LM) using Hematoxylin and eosin, periodic acid–Schiff (PAS) stain, methenamine silver stain and trichrome stain and immunofluorescence (IF). IF staining was performed on 3-μm cryostat sections using polyclonal fluorescein isothiocyanate-conjugated (FITC) antibodies to IgG, IgM, IgA, C3, C1q, kappa and lambda light chains. The intensity of IF staining was graded on a scale of 0 to 3+. Interstitial fibrosis and tubular atrophy (IFTA) were graded as mild (<25%), moderate (25-50%), and severe (>50%) on LM. When thought necessary by the treating physician electron microscopy was done using the paraffin embedded tissue. Additional special stains were used whenever indicated. All biopsy samples were analyzed by a single nephropathologist. A second biopsy was performed in case a biopsy sample was inadequate for diagnosis and if exact diagnosis would have significant implications on the therapy and if the patients gave consent for a re-biopsy.

SUPPLEMENTARY TABLES:

Supplementary table 1: Indications of renal biopsy in our institute

Childhood onset NS#	Steroid resistant NS both early and late steroid resistance Any systemic features associated with NS Steroid dependent NS prior to initiation of tacrolimus therapy Three years of tacrolimus therapy decreasing kidney function in children receiving Caliceurin inhibitors
Adult onset NS	All cases
Rapidly progressing glomerulonephritis	All cases
Acute kidney injury (AKI)	Non recovery after 6 weeks AKI in pregnancy without obvious cause
Acute nephritic syndrome (ANS)	Non resolving ANS in children Adult ANS with persistent renal dysfunction or urinary abnormalities
Chronic kidney disease	Whenever possible, unless etiology is obvious or non-glomerular (eg.obstructive uropathy, ischemic nephropathy)
Diabetic nephropathy	Any suspicion of non-diabetic kidney disease.

Asymptomatic urinary abnormalities (AUA)	Persistent AUA (proteinuria >500mg/day, persistent active sediments)
Macroscopic hematuria	All causes after ruling out lower urinary tract causes
#NS: nephrotic syndrome	

Supplementary table 2: contraindications of renal biopsy
small sized kidneys multiple renal cysts urinary obstruction deranged coagulation profile*, urinary tract infection* uncontrolled hypertension* poor general condition* (hemodynamically unstable, uncooperative)
*temporary contraindications

Supplementary table 3: Glomerulonephritis with crescents (any number of crescents) (n=220)		
Diagnosis	n	%
Necrotising GN with crescents	79	35.90
LN	59	26.81
DPGN	26	11.81
IgAN	28	12.72
MPGN	18	8.18
MesPGN*	5	2.27
MN	4	1.81
FSGS	1	0.45
*MesPGN: mesangioproliferative Glomerulonephritis. Of all MesGN and MPGN only C3 was present in IF in 5 cases.		

Supplementary table 4: FSGS histological variants (n=163).		
Variant	n	%

Not otherwise specified (NOS)	110	67.48
Tip variant	26	15.95
Peri-hilar	4	2.45
Cellular	3	1.84
Collapsing#	1	0.61
#Unlike the other variants which presented as NS or subnephrotic proteinuria this variant presented as rapidly progressing renal failure.		

Supplementary table 5: Spectrum of Monoclonal gammopathies (n=32)		
Diagnosis	n	%
AL Amyloidosis	23	71.88
Light chain deposition disease(LCDD)#	4	12.5
AL Amyloid along with LCDD	3	9.37
Cast Nephropathy	1	3.13
Heavy chain deposition disease (HCDD)#	1	3.13
#the one HCDD and 2 of LCDD cases presented as nodular glomerulosclerosis.		