

CHAPTER 1

Overview Of Renal Biopsy In Malaysia

Wan Sha'ariah Md Yusuf

Lee Ming Lee

Lee Day Guat

1.1: Introduction

The Malaysian Registry of Renal Biopsy (MRRB) was first established on the 1st of January 2005. It started off as a pilot project involving centers with nephrology services within the Ministry of Health Malaysia. In its infancy, this registry was called GN Registry but subsequently changed to MRRB as it was deemed to be more appropriate.

Before MRRB, there were two known existing databases in MOH hospitals related to renal biopsy. They were the paediatric (Paediatric Institute, HKL) renal biopsy database (1993 – 2004) and adult HKL renal biopsy database (2004). This will be elaborated in their respective chapters subsequently.

The MRRB data collection is still on going. In 2008, the participation was opened to non-MOH nephrologists and renal physicians. Thus, the subsequent reports will include data from all the MOH centres, universities and private hospitals.

1.2: Renal biopsies from the participating centres

1.2.1 Ascertainment rate of total biopsy performed

From 2005 to 2007, a total of 21 centres (15 adult and 6 paediatric) from the Ministry of Health (MOH) submitted data to the MRRB. These participating centres will be identified by their source document provider (SDP) number.

In 2005, a total 749 renal biopsies were performed and of these, 716 were reported. In 2006, 991 renal biopsies were performed and 927 were reported. In 2007, 853 renal biopsies were performed and of these 776 were reported. This gives an ascertainment rate of 95.6% for 2005, 93.5% for 2006 and 91% in 2007. The average ascertainment rate for 2005-2007 was 93.3% (Table 1.2.1)

Table 1.2.1: Total number of reported and unreported renal biopsies by centres, 2005 – 2007

Centre	2005		2006		2007		Total			
	Reported	Not reported	Reported	Not reported	Reported	Not reported	Reported	Not reported		
	n	n	n	n	n	n	n	%	n	%
1	97	0	107	0	101	0	305	13	0	0
2	2	0	10	1	24	0	36	1	1	1
3	97	3	104	0	65	0	266	11	3	2
4	13	0	18	0	19	0	50	2	0	0
5	28	0	38	0	44	6	110	5	6	3
6	31	4	44	4	56	0	131	5	8	5
7	27	0	28	0	24	0	79	3	0	0
8	10	3	5	0	11	0	26	1	3	2
9	21	0	27	0	21	0	69	3	0	0
10	68	0	81	0	61	0	210	9	0	0
11	0	11	42	21	4	28	46	2	60	34
12	0	0	2	0	7	1	9	0	1	1
13	18	3	6	27	0	25	24	1	55	32
14	15	0	24	0	27	5	66	3	5	3
15	39	0	51	0	44	0	134	6	0	0
16	74	0	101	10	63	0	238	10	10	6
17	42	0	51	0	42	0	135	6	0	0
18	90	9	140	0	109	12	339	14	21	12
19	16	0	24	1	14	0	54	2	1	1
20	28	0	24	0	37	0	89	4	0	0
21	0	0	0	0	3	0	3	0	0	0
Total	716	33	927	64	776	77	2419	100	174	100

1.2.2 Type of renal biopsy performed

As expected, majority of the biopsies reported were from native kidneys: 90.2% in 2005, 87.5% in 2006 and 87.8% in 2007. The rest were from graft kidneys (Table 1.2.2).

Table 1.2.2: Distribution of reported native and graft renal biopsies by centres, 2005-2007

centre	2005		2006		2007		Total			
	Native	Graft	Native	Graft	Native	Graft	Native		Graft	
	n	n	n	n	n	n	n	%	n	%
1	69	28	57	50	58	43	184	9	121	43
2	2	0	10	0	24	0	36	2	0	0
3	85	12	93	11	63	2	241	11	25	9
4	13	0	17	1	19	0	49	2	1	0
5	27	1	36	2	42	2	105	5	5	2
6	26	5	34	10	43	13	103	5	28	10
7	27	0	27	1	23	1	77	4	2	1
8	10	0	5	0	11	0	26	1	0	0
9	21	0	25	2	20	1	66	3	3	1
10	68	0	79	2	61	0	208	10	2	1
11	0	0	42	0	4	0	46	2	0	0
12	0	0	2	0	7	0	9	0	0	0
13	18	0	6	0	0	0	24	1	0	0
14	15	0	24	0	27	0	66	3	0	0
15	35	4	48	3	44	0	127	6	7	3
16	72	2	99	2	61	2	232	11	6	2
17	41	1	38	13	33	9	112	5	23	8
18	73	17	122	18	87	22	282	13	57	20
19	16	0	23	1	14	0	53	3	1	0
20	28	0	24	0	37	0	89	4	0	0
21	0	0	0	0	3	0	3	0	0	0
Total	646	70	811	116	681	95	2138	100	281	100

1.2.3: Number of renal biopsy done on each individual patient

The data captured in MRRB is year based. New biopsies and patients with biopsy before 2005 were included. The number of biopsy episode/attempt per patient is recorded accordingly.

In the native biopsy group, from 2005 to 2007, 2071 patients had renal biopsy done. 1762 patients had renal biopsy for the first time, 263 patients had biopsy done twice, 43 patients had biopsy done thrice and 3 patients had four or more biopsy done on them. Therefore about 14.9% of patients had a repeat native biopsy done (table 1.2.3(a)).

In the allograft biopsy group; over the same period, 214 patients underwent a graft biopsy. 146 patients had biopsy done once, 46 patients had biopsy done twice, 16 patients had biopsy done thrice and 6 patients had biopsy done four times or more (Table 1.2.3 (b)). As expected, there was a higher rate of repeat graft biopsies (31.8%).

Table 1.2.3(a): Distribution of native renal biopsy in patients by number of episodes /attempts

Total no of biopsy/ patient	2005		2006		2007		Total n
	n	%	n	%	n	%	
1	523	85	676	86	563	84	1762
2	83	13	98	13	82	12	263
3	9	1	9	1	25	4	43
≥4	0	0	0	0	3	0	3
Total no. of patients	615	100	783	100	673	100	2071

Table 1.2.3(b): Distribution of renal allograft biopsy in patients by number of episodes /attempts

Total no of biopsy/ patient	2005		2006		2007		Total N
	N	%	N	%	N	%	
1	36	75	61	70	49	62	146
2	10	21	17	20	19	24	46
3	2	4	7	8	7	9	16
≥4	0	0	2	2	4	5	6
Total no. of patients	48	100	87	100	79	100	214

1.2.4: Demographic distribution of renal biopsy (Native and Graft)

1.2.4.1: Age distribution

Eighty one percent of native biopsies were done in patients older than 15 years old and in this group, 93.2% of the biopsies were done in patients less than 55 years age. Very few (6%) biopsies were done in patients older than 55 years old. (Table 1.2.4.1 (a)).

In the graft biopsy group, 96.1% were done in patients older than 15 years old and of these, 85.4% were in the age group of 15 to less than 55 years. Only 10.7% of the graft biopsies were done in those above 55 years of age (Table 1.2.4.1(b)).

For adults (age > 15years old) the highest number of renal biopsy was reported in Selangor (23%), followed by WP Kuala Lumpur (16%) and Penang (13%). In the paediatric group (age < 15 years old), the highest number of renal biopsy were reported in WP Kuala Lumpur (29%), followed by Johor (24%) and Selangor (14%) (Table 1.2.4.1(c)).

Table 1.2.4.1(a): Age distribution of native renal biopsy, 2005-2007

Age group	2005	2006	2007	Total	
	n	n	n	n	%
<15	127	133	145	405	19
15-<25	170	236	189	595	28
25-<35	145	183	152	480	22
35-<45	116	126	99	341	16
45-<55	59	79	61	199	9
55-<65	17	42	24	83	4
≥65	12	12	11	35	2
Total	646	811	681	2138	100

Table 1.2.4.1(b): Age distribution of renal allograft biopsy, 2005-2007

Age group (years)	2005	2006	2007	Total	
	n	n	n	n	%
<15	0	5	6	11	4
15-<25	15	26	16	57	20
25-<35	11	24	12	47	17
35-<45	23	25	32	80	29
45-<55	12	24	20	56	20
55-<65	6	8	9	23	8
≥65	3	4	0	7	2
Total	70	116	95	281	100

Table 1.2.4.1(c): Age group distribution of reported renal biopsies by state, 2005-2007

Year of biopsy State	2005						2006						2007						Total						
	Age < 15		Age ≥ 15		Age < 15		Age ≥ 15		Age < 15		Age ≥ 15		Age < 15		Age ≥ 15		Age < 15		Age ≥ 15		Age < 15		Age ≥ 15		
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	
Johor	29	22	67	11	24	17	81	10	45	30	53	8	98	24	201	10									
Kedah	0	0	2	0	0	0	10	1	4	3	20	3	4	1	32	2									
Kelantan	2	2	13	2	0	0	24	3	3	2	24	4	5	1	61	3									
Melaka	2	2	19	3	1	1	26	3	1	1	20	3	4	1	65	3									
Negeri Sembilan	11	8	26	5	6	4	27	3	10	7	25	4	27	6	78	5									
Pahang	0	0	0	0	6	4	38	5	6	4	5	1	12	3	43	2									
Perak	2	2	26	4	2	1	36	5	0	0	44	7	4	1	106	5									
Perlis	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0									
Penang	14	11	96	16	18	14	104	13	19	12	65	10	51	12	265	13									
Sabah	1	1	38	6	5	4	46	6	5	3	42	7	11	3	126	6									
Sarawak	6	5	68	12	6	4	95	12	4	3	59	10	16	4	222	11									
Selangor	17	13	120	20	28	20	180	23	17	11	162	26	62	14	462	23									
Terengganu	2	2	16	3	1	1	5	1	0	0	0	0	3	1	21	1									
WP Kuala Lumpur	41	32	98	17	41	30	117	15	37	24	106	17	119	29	321	16									
Total	127	100	589	104	138	100	789	100	151	100	625	100	416	100	2003	100									

1.2.4.2: Gender distribution

In the native renal biopsy group, there were more females compared to males (ratio 3:2). This was probably due to the higher number of females among the patients biopsied for SLE (Table 1.2.4.2(a)). However, in the graft biopsy group, there were more males (ratio 2:1)(Table 1.2.4.2(b)). This is consistent with the trend of male predominance amongst the transplant patients as reported in the 15th Report of The Malaysian Dialysis and Transplant Registry.

Table 1.2.4.2(a): Gender distribution of native renal biopsy, 2005-2007

Gender	2005	2006	2007	Total	
	n	n	n	n	%
Male	231	332	265	828	40
Female	384	451	408	1,243	60
Total	615	783	673	2071	100

Table 1.2.4.2(b): Gender distribution of renal allograft biopsy, 2005-2007

Gender	2005	2006	2007	Total	
	n	n	n	n	%
Male	29	59	49	137	64
Female	19	28	30	77	36
Total	48	87	79	214	100

1.2.4.3: Racial distribution

Among the patients who had native kidney biopsy, majority were Malays (57%), followed by Chinese (24%)(Table 1.2.4.3(a)). In the allograft biopsy group, majority of patients were Chinese (56%) followed by Malays (29%) (Table 1.2.4.3(b)).

Table 1.2.4.3(a): Racial distribution of native renal biopsy, 2005-2007

Race	2005	2006	2007	Total	
	n	n	n	n	%
Malay	344	442	391	1,177	57
Chinese	150	188	164	502	24
Indian	43	60	38	141	7
Others	78	93	80	251	12
Total	615	783	673	2071	100

Table 1.2.4.3(b): Racial distribution of renal allograft biopsy, 2005-2007

Race	2005	2006	2007	Total	
	n	n	n	n	%
Malay	14	23	26	63	29
Chinese	28	52	39	119	56
Indian	3	9	9	21	10
Others	3	3	5	11	5
Total	48	87	79	214	100

1.2.5: Renal Biopsy Report Analysis

A total of 2419 renal biopsies were performed from 2005 to 2007. 515 (21.3%) of the biopsies yielded less than 10 glomeruli, which our pathologists felt was the minimum number of glomeruli required to label a biopsy as adequate. 58(2.4%) biopsies were classified as missing because the histopathology reports were not submitted to MRRB. The remaining 76.3% reported 10 or more glomeruli.

Table 1.2.5: Number of glomeruli obtained at each biopsy by centres, 2005-2007

Total no. of glomeruli Centre	Less 10		10 & above		Missing		Total	
	n	%	n	%	n	%	n	%
1	54	18	250	82	1	0	305	100
2	7	19	29	81	0	0	36	100
3	37	14	229	86	0	0	266	100
4	4	8	44	88	2	4	50	100
5	22	20	88	80	0	0	110	100
6	32	24	93	71	6	5	131	100
7	13	16	66	84	0	0	79	100
8	9	35	17	65	0	0	26	100
9	30	43	39	57	0	0	69	100
10	67	32	141	67	2	1	210	100
11	4	9	20	43	22	48	46	100
12	2	22	7	78	0	0	9	100
13	8	33	13	54	3	13	24	100
14	28	42	37	56	1	2	66	100
15	11	8	122	91	1	1	134	100
16	69	29	169	71	0	0	238	100
17	15	11	118	87	2	1	135	100
18	53	16	268	79	18	5	339	100
19	9	17	45	83	0	0	54	100
20	41	46	48	54	0	0	89	100
21	0	0	3	100	0	0	3	100
Total	515	21.3	1846	76.3	58	2.4	2419	100

1.2.6: Histopathology specimen distribution to histopathology laboratories

As shown in Table 1.2.6, not all biopsies performed at the centres were read by the local histo-pathologists. A number of the renal biopsy specimens were sent to other centre for processing and reporting. A total of 44.9% of HPE slides were read locally and 55.1% were sent to another laboratory (Table 1.2.6 (a))

The histopathology laboratories were coded by a number. (Table 1.2.6 (b)).

Table 1.2.6(a): Distribution of biopsy specimens to histopathology laboratories by participating centres, 2005-2007

Centre	Local histopathology laboratories						Outside histopathology laboratories						All					
	2005		2006		2007		2005		2006		2007		Total		All			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%		
1	58	19	58	19	98	32	214	70	39	13	49	16	3	1	91	30	305	100
2	90	34	98	37	31	12	219	82	2	6	10	28	24	67	36	100	36	100
3	13	26	17	34	11	22	41	82	7	3	6	2	34	13	47	18	266	100
4	26	24	37	34	44	40	107	97	0	0	1	2	8	16	9	18	50	100
5	9	11	7	9	8	10	24	30	2	2	1	1	0	0	3	3	110	100
6	9	11	7	9	8	10	24	30	31	24	44	34	56	43	131	100	131	100
7	9	35	5	19	8	31	22	85	18	23	21	27	16	20	55	70	79	100
8	21	30	26	38	21	30	68	99	1	4	0	0	3	12	4	15	26	100
9	68	32	81	39	60	29	209	100	0	0	1	1	0	0	1	1	69	100
10	0	0	11	24	0	0	11	24	0	0	0	0	1	0	1	0	210	100
11	18	75	6	25	0	0	24	100	0	0	2	22	7	78	9	100	9	100
12	0	0	0	0	9	14	9	14	15	23	24	36	18	27	57	86	24	100
13	0	0	0	0	0	0	0	0	39	29	51	38	44	33	134	100	66	100
14	36	27	37	27	41	30	114	84	74	31	101	42	63	26	238	100	238	100
15	9	3	12	4	0	0	21	6	6	4	14	10	1	1	21	16	135	100
16	2	4	0	0	0	0	2	4	81	24	128	38	109	32	318	94	339	100
17	2	4	0	0	0	0	2	4	14	26	24	44	14	26	52	96	54	100
18	28	31	24	27	37	42	89	100	28	31	24	27	37	42	89	100	89	100
19	0	0	0	0	0	0	0	0	0	0	0	0	3	100	3	100	3	100
20	359		395		331		1085		357		532		445		1334		2419	
21																		
Total	359		395		331		1085		357		532		445		1334		2419	

Table 1.2.6(b): Histopathology laboratories receiving renal biopsy specimens, 2005-2007

Histopathology Laboratories	2005		2006		2007		Total	
	n	%	n	%	n	%	n	%
1	0	0	3	0	1	0	4	0
3	26	4	37	5	44	6	107	4
4	0	0	0	0	9	1	9	0
5	211	29	363	39	428	55	1002	42
6	19	2	6	1	6	1	31	1
7	23	3	26	3	37	5	86	4
8	105	15	125	14	42	5	272	11
10	11	2	12	1	0	0	23	1
11	18	3	13	1	16	2	47	2
12	96	13	105	11	97	13	298	12
13	0	0	11	1	0	0	11	0
16	38	5	69	7	2	0	109	5
17	15	2	25	3	17	2	57	2
18	154	22	132	14	77	10	363	16
Total	716	100	927	100	776	100	2419	100

1.3: Native kidney biopsy

1.3.1: Clinical Indications of renal biopsy

The main indications for native kidney biopsies were nephrotic syndrome (46%) followed by urinary abnormalities (26%) (Table 1.3.1 (a)). A total of 1157 (54%) patients had normal renal function at time of biopsy, 28% had impaired renal function and for the rest, renal function was either not available or unknown at time of biopsy.(Table 1.3.1 (b)).

Table 1.3.1(a): Indications for native renal biopsies, 2005-2007

Indications	2005		2006		2007		Total	
	n	%	n	%	n	%	n	%
Urinary abnormalities	166	26	215	27	184	27	565	26
Acute Nephritic syndrome	60	9	65	8	55	8	180	8
Nephrotic syndrome	309	48	368	45	317	47	994	46
Nephrotic-nephritic syndrome	21	3	38	5	49	7	108	5
Unknown	90	14	125	15	76	11	291	14
Total	646	100	811	100	681	100	2138	100

Patient may have more than one indication for renal biopsy

Table 1.3.1(b): Renal function at time of biopsy

Renal function	2005		2006		2007		Total	
	n	%	n	%	n	%	n	%
Normal	362	56	410	51	385	57	1157	54
Impaired	149	23	236	29	216	32	601	28
Missing / unknown	135	21	165	20	80	12	380	18
Total	646	100	811	100	681	100	2138	100

1.3.2: Histopathological Diagnosis

In the native kidney biopsy group, the three most common primary glomerulonephritis (GN) reported were focal segmental glomerulosclerosis (FSGS) (36%), minimal change disease (32%), followed by IgA nephropathy (15%). Membranous nephropathy only comprises 8% of the total primary GN subgroup. (Table 1.3.2).

Lupus nephritis was the commonest secondary GN contributing 87% of cases (Table 1.3.2).

The most common tubulointerstitial disease reported was acute tubular necrosis (63%) (Table1.3.2).

Table 1.3.2: Histopathology of all native renal biopsies, 2005-2007

Type	Histopathological Diagnosis	2005		2006		2007		Total	
		n	%	n	%	n	%	n	%
Primary GN (n=968)	Minimal change	94	33	103	28	110	35	307	32
	FSGS	101	35	144	39	104	33	349	36
	Ig A nephropathy	36	13	62	17	50	16	148	15
	Membranous nephropathy	21	7	32	9	28	9	81	8
	Membrano-proliferative	12	4	10	3	4	1	26	3
	Mesangial Proliferative	16	6	10	3	11	4	37	4
	Crescentic ANCA	1	0	0	0	0	0	1	0
	Idiopathic Crescentic	6	2	9	2	3	1	18	2
	Unknown	0	0	0	0	1	0	1	0
	Subtotal	287	100	370	100	311	100	968	100
Secondary GN (n=954)	Lupus nephritis	270	89	309	86	255	87	834	87
	Other Infection	0	0	1	0	1	0	2	0
	Henoch Schonlein purpura	3	1	2	1	2	1	7	1
	HUS / TTP	2	1	1	0	0	0	3	0
	Amyloidosis	1	0	4	1	1	0	6	1
	Systemic vasculitis	1	0	3	1	2	1	6	1
	Postinfectious GN	17	6	12	3	12	4	41	4
	Malignancy	0	0	1	0	0	0	1	0
	Light/Heavy chain disease	0	0	0	0	1	0	1	0
	Diabetic nephropathy	8	3	26	7	12	4	46	5
	Multiple myeloma	0	0	1	0	1	0	2	0
	Unknown	0	0	0	0	5	2	5	1
	Subtotal	302	100	360	100	292	100	954	100
Tubulointerstitial disease (n=117)	Acute interstitial nephritis	5	24	7	14	6	13	18	15
	Acute tubular necrosis	10	48	33	67	31	66	74	63
	Chronic interstitial nephritis	6	29	9	18	10	21	25	21
		Subtotal	21	100	49	100	47	100	117
Vascular (n=17)	Atherosclerosis	0	0	0	100	2	25	2	12
	Benign/malignant hypertension	2	100	7	100	5	63	14	82
	Unknown	0	0	0	0	1	13	1	6
		Subtotal	2	100	7	100	8	100	17
Hereditary (n=7)	Alport's syndrome	0	0	2	50	0	0	2	29
	Thin basement membrane disease	1	50	1	25	0	0	2	29
	Others	1	50	1	25	1	100	3	43
		Subtotal	2	100	4	100	1	100	7
Advance GN		15	100	18	100	16	100	49	100
Others		0	0	2	100	10	100	12	100

* Patients may have either one or more histopathology or inconclusive report

1.3.3: Histopathology findings in common clinical presentation

1.3.3.1: Histopathological diagnosis in patients with nephrotic syndrome

In patients presenting with nephrotic syndrome, the commonest histopathology reported was focal segmental glomerulosclerosis (26.1%), followed by minimal change (25.7%) and lupus nephritis (23.9%) (Table 1.3.3.1)

Table 1.3.3.1: Histopathological diagnosis in patients presenting with nephrotic syndrome

Histopathological Diagnosis		n	%
Primary GN	Minimal Change	260	25.7
	FSGS	263	26.1
	Ig A nephropathy	40	4.0
	Membranous nephropathy	59	5.9
	Membrano-proliferative	16	1.6
	Mesangial proliferative GN-non IgA	17	1.7
	Crescentic	3	0
	Unknown	1	0
	Sub total	659	65
Secondary GN	Lupus nephritis	241	23.9
	HUS/TTP	1	0.1
	Amyloidosis	4	0.4
	Systemic vasculitis	1	0.1
	Post infectious GN	7	0.7
	Diabetic nephropathy	20	2.0
	Unknown	4	0.4
Sub total	278	28	
Others		71	7
Total		1008	100

* Patients may have either one or more histopathology or not have any histopathology

1.3.3.2: Histopathological diagnosis in patients with urinary abnormalities

In patients presenting with urinary abnormalities, IgA was the commonest histopathology reported in the primary GN group was IgA (13%); while the most common secondary GN was lupus nephritis (59%).(Table 1.3.3.2).

Table 1.3.3.2: Histopathological diagnosis in patients presenting with urine abnormalities, 2005-2007

Histopathological Diagnosis		n	%
Primary GN	Minimal Change	28	5
	FSGS	47	9
	Ig A nephropathy	69	13
	Membranous nephropathy	15	3
	Membrano-proliferative	3	1
	Mesangial Proliferative GN-non IgA	14	2
	Idiopathic Crescentic	2	0
	Sub total	178	33
Secondary GN	Other Infection	2	0
	Lupus Nephritis	315	59
	Henoch Schonlein purpura	2	0
	Amyloidosis	2	0
	Post infectious GN	6	1
	Diabetic nephropathy	5	1
	Multiple myeloma	1	0
Sub total	333	61	
Others		33	6
Total		544	100

* Patients may have either one or more histopathology or not have any histopathology

1.3.3.3: Histopathological diagnosis in patients with nephritic-nephrotic syndrome

In patients presenting with nephritic-nephrotic syndrome the commonest histopathology among the primary GN was IgA (9%) and among the secondary GN was lupus nephritis (49%) .(Table 1.3.3.3).

Table 1.3.3.3: Histopathological diagnosis in patients presenting with nephritic-nephrotic syndrome, 2005-2007

Histopathological diagnosis		n	%
Primary GN	Minimal Change	8	6
	FSGS	9	8
	Ig A nephropathy	11	9
	Membranous nephropathy	2	2
	Membrano-proliferative	2	2
	Messangial Proliferative GN-non IgA	2	2
	Idiopathic Crescentic	1	1
Sub total	35	30	
Secondary GN	Lupus Nephritis	58	49
	Henoch Schonlein purpura	2	2
	Systemic vasculitis	1	1
	Post infectious GN	5	4
	Diabetic nephropathy	2	2
Sub total	68	58	
Others	14	12	
Total	117	100	

* Patients may have either one or more histopathology or not have any histopathology

1.3.3.4: Histopathological diagnosis in patients with nephritic syndrome

In patients presenting with acute nephritic syndrome, the commonest GN is lupus nephritis (Table 1.3.3.4)

Table 1.3.3.4: Histopathological diagnosis in patients presenting with nephritic syndrome, 2005-2007

Histopathological Diagnosis		n	%
Primary GN	Minimal Change	7	4
	FSGS	15	9
	Ig A nephropathy	12	6
	Membranous nephropathy	2	1
	Membrano-proliferative	3	2
	Messangial Proliferative GN-non IgA	3	2
	Idiopathic Crescentic	5	3
Sub total	47	27	
Secondary GN	Lupus Nephritis	91	52
	Henoch Schonlein purpura	1	1
	Systemic vasculitis	2	1
	Post infectious GN	15	9
	Diabetic nephropathy	4	2
Sub total	113	65	
Others	14	8	
Total	174	100	

* Patients may have either one or more histopathology or not have any histopathology

1.3.3.5 Primary GN according to various age group

FSGS was the commonest GN in the <15 year age group (48%) and also in adults between 25 - <55 years old(32%). This was followed by minimal change disease; <15 years (36%) and adults age (30.2%). However the commonest GN in the 15- 25 year age group was minimal change disease (43%). In patients above 55 years of age the commonest primary GN was membranous nephropathy (39.7%) (Table 1.3.3.5).

Table 1.3.3.5: Primary GN according to the various age group, 2005 -2007

	<15		15-<25		25-<35		35-<45		45-<55		55-<65		≥65		Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Minimal change disease	83	37	116	43	49	26	31	23	18	22	7	17	3	14	307	32
FSGS	108	48	92	34	64	33	44	33	25	30	10	24	6	29	349	36
Ig A Nephropathy	21	9	34	12	41	21	28	21	16	20	6	14	2	9	148	15
Membranous nephropathy	2	1	7	3	18	9	13	10	16	20	15	36	10	48	81	8
Membrano proliferative	3	1	5	2	7	4	7	5	1	1	3	7	0	0	26	3
Messangial proliferative	8	4	8	3	8	4	10	7	2	2	1	2	0	0	37	4
Crescentic ANCA	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Idiopathic crescentic	1	0	8	3	5	3	1	1	3	4	0	0	0	0	18	2
Missing	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0
Total	227	100	270	100	192	100	134	100	82	100	42	100	21	100	968	100

Figure 1.3.3.5: Primary GN according to the various age group, 2005 -2007

