

Supplemental Material

Supplementary Table 1. Demographic and clinical characteristics of 7962 children who underwent kidney biopsy in China from 2004 through 2014 by time period.

Characteristic	Total n=7962	2004-2007 n=768	2008-2011, n=1640	2012-2014 n=5554
Gender, n (%)				
Boys	5089 (63.9)	466 (60.7)	1065 (64.9)	3558 (64.1)
Girls	2873 (36.1)	302 (39.3)	575 (35.1)	1996 (35.9)
Age, n (%)				
0-12 year	2615 (32.8)	320 (41.7)	425 (25.9)	1870 (33.7)
13-18 year	5347 (67.2)	448 (58.3)	1215 (74.1)	3684 (66.3)
Region, n (%)				
South	6466 (81.2)	757 (98.6)	1339 (81.6)	4370 (78.7)
North	1496 (18.8)	11 (1.4)	301 (18.4)	1184 (21.3)
Hospital level*, n (%)				
Tertiary class A	6576 (82.6)	743 (96.7)	1319 (80.4)	4514 (81.3)
Tertiary class B	666 (8.4)	3 (0.4)	91 (5.5)	572 (10.3)
Secondary	720 (9.0)	22 (2.9)	230 (14.0)	468 (8.4)
Clinical Syndrome, n (%)				
Nephrotic syndrome	3993 (50.2)	255 (33.2)	849 (51.8)	2889 (52.0)
Proteinuria and Hematuria	2120 (26.6)	261 (34.0)	430 (26.2)	1429 (25.7)
Proteinuria	772 (9.7)	49 (6.4)	140 (8.5)	583 (10.5)
Hematuria	661 (8.3)	140 (18.2)	135 (8.2)	386 (6.9)
Acute kidney injury	286 (3.6)	25 (3.3)	54 (3.3)	201 (3.6)
Progressive CKD†	130 (1.6)	38 (4.9)	32 (2.0)	60 (1.1)

* according to the Classification of Chinese Hospitals, available at:

<https://www.hqms.org.cn/usp/roster/index.jsp>

† defined as eGFR ≤ 60 mL/min/1.73 m²

Abbreviation: CKD, chronic kidney disease;

Supplementary Table 2. Major glomerular disease among 7962 children who underwent kidney biopsy in China from 2004 through 2014 by region.

	South n(%)	North n(%)	Adjusted OR* (95%CI)	P value*
MCD	1933 (29.9)	343(22.9)	0.58 (0.50, 0.68)	< 0.001
IgAN	1091 (16.9)	285 (19.1)	1.36 (1.17, 1.59)	< 0.001
MsPGN	669 (10.3)	138 (9.2)	0.87 (0.70, 1.07)	0.22
MN	305 (4.7)	213 (14.2)	3.50 (2.88, 4.24)	< 0.001
FSGS	388 (6.0)	39 (2.5)	0.30 (0.21, 0.43)	< 0.001
Purpura Nephritis	807 (12.5)	256 (17.1)	2.08 (1.75, 2.48)	< 0.001
Lupus Nephritis	610 (9.4)	99 (6.6)	0.50 (0.39, 0.63)	< 0.001

* adjusted for age, gender, indications of biopsy, hospital levels and diagnosis center with south as the reference.

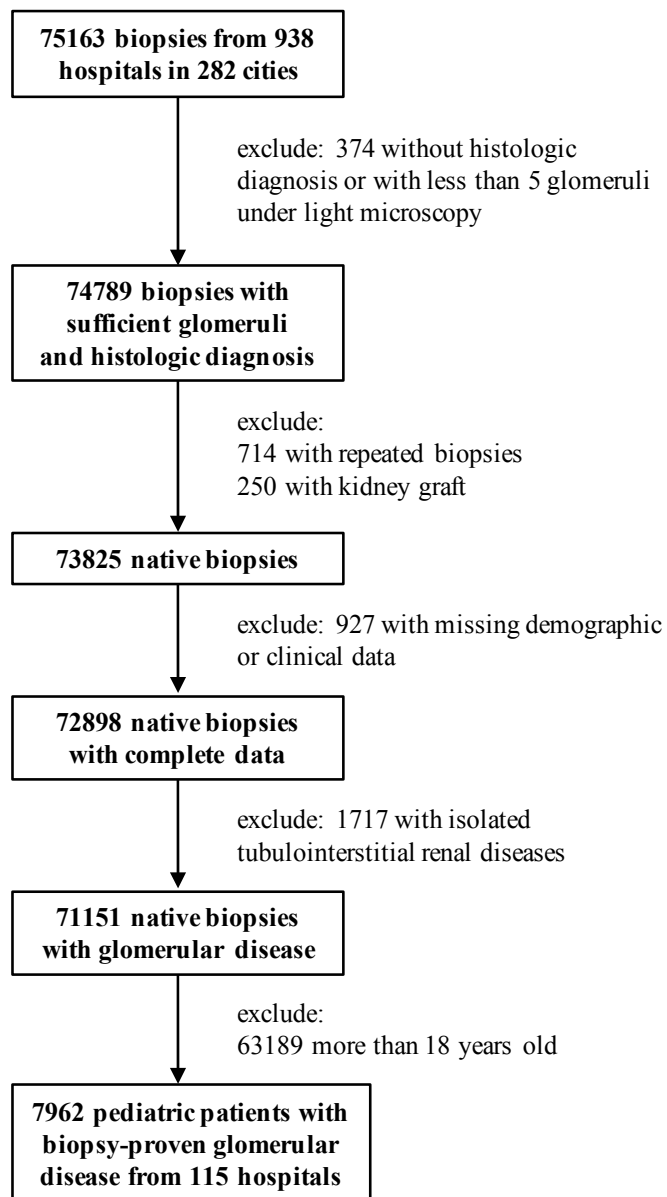
Abbreviation: MCD, minimal change disease; IgAN, IgA nephropathy; FSGS, focal segmental glomerulosclerosis; MN, membranous nephropathy; MsPGN, mesangial proliferative glomerulonephritis

Supplementary Table 3. Most common clinical presentation among 7962 children who underwent kidney biopsy in China from 2004 through 2014 by major glomerular disease diagnoses.

	N	Top 1 (%)	Top 2 (%)	Top 3 (%)
Primary				
MCD	2276	NS (91.3)	AKI (3.5)	Pro (2.9)
IgAN	1376	Pro+HU (47.5)	NS (30.5)	HU (10.2)
MsPGN	807	Pro+HU (29.9)	HU (25.7)	Pro (22.4)
MN	518	NS (79.0)	Pro+HU (13.1)	Pro (6.2)
FSGS	427	NS (72.8)	Pro+HU (8.4)	Pro (6.8)
Secondary				
Purpura nephritis	1063	Pro+HU (58.9)	Pro (18.3)	NS (14.1)
Lupus nephritis	709	NS (38.9)	Pro+HU (31.0)	Pro (17.9)
HBVAN	69	NS (63.8)	Pro+HU (20.3)	Pro (13.0)
Heredity				
TBMN	227	HU (71.8)	Pro+HU (22.9)	Pro (3.1)
Alport	67	Pro+HU (43.3)	NS (37.3)	HU (13.4)

Abbreviations: MCD: minimal change disease; IgAN: IgA nephropathy; FSGS: focal segmental glomerulosclerosis; MN: membranous nephropathy; MsPGN: mesangial proliferative glomerulonephritis; TBMN: thin basement membrane nephropathy; HBVAN, hepatitis B virus associated nephritis. Alport: alport nephropathy; AKI, acute kidney injury; CKD, chronic kidney disease; Pro: proteinuria; HU: hematuria; NS: nephrotic syndrome

Supplementary Figure 1. The flowchart of patient selection.



Classification of Chinese Hospitals

Chinese hospitals are classified according to a 3-tier system that based on the hospital's ability to provide medical care, education, and scientific research. Generally, Chinese hospitals are classified as Tertiary, Secondary or Primary level. Tertiary hospitals are mostly comprehensive or general hospitals at the city, provincial or national level with a bed capacity more than 500. They are responsible for providing comprehensive health services, as well as medical education and conducting research to multiple regions. Secondary hospitals tend to be affiliated with a medium size city, county or district and contain 100-500 beds. Their responsibility is providing similar services on a regional basis. A primary hospital is typically a township hospital that contains less than 100 beds. They are tasked with providing preventive care, minimal health care and rehabilitation services. Furthermore, based on the level of service provision, medical technology, equipment, and medical quality, the hospitals are further subdivided into 3 subsidiary levels: A, B and C, such as Tertiary A or Tertiary B.

The detail list of Chinese hospitals by hospital level is available at:
<https://www.hqms.org.cn/usp/roster/index.jsp>