Supplementary Material

Supplementary Table 1 Main diagnostic classification of primary diseases

Diagnosis	**Number, No.(%) (n=337)**
Nephrotic syndrome	140(41.5)
Systemic lupus erythematosus	
Lupus nephritis	74(22.0)
Neuropsychiatric lupus	2(0.6)
Lupus blood system damage	1(0.3)
Others	10(3.0)
Allergic purpura	
Allergic purpura nephritis	43(12.8)
Skin type	1(0.3)
IgA nephropathy	30(8.9)
Chronic kidney disease	7(2.1)
Renal transplantation	6(1.8)
ANCA-associated nephritis	6(1.8)
Juvenile idiopathic arthritis	3(0.9)
Connective tissue disease	3(0.9)
Alport's syndrome	2(0.6)
Acute progressive nephritis syndrome	2(0.6)
Acute glomerulonephritis	1(0.3)
Tubulointerstitial nephritis	1(0.3)
ANCA-associated vasculitis	1(0.3)
Sjogren syndrome	1(0.3)
Hemophagocytic syndromes	1(0.3)
Dermatomyositis	1(0.3)
Abernethy malformation	1(0.3)

LN lupus nephritis, *IgA* Immunoglobulin A, *ANCA* anti-neutrophil cytoplasmic antibody

Supplementary Table 2 The definitions or calculation details of the indicators related to GC use

Indicators	The definitions or calculation details
Types of GCs	Included methylprednisolone and prednisolone. The GC dose was calculated on the basis of methylprednisolone, with the prednisolone dose converted to its equivalent methylprednisolone dose by multiplying by 0.8. The dosage was expressed in milligrams (mg).
Routes of GCs	Included oral or intravenous.
Categories of GCs	Including oral prednisolone, oral methylprednisolone, and intravenous methylprednisolone.
Cumulative duration of GC use	Each medication record was defined as a single entry if it involved different types and/or doses of GC. The duration of each record was calculated as the interval between the treatment start date and the end date. The cumulative duration of use was determined by summing the durations of all records and was measured in days (d).
Cumulative dose of GC use	The definition was the total amount of GC administered from the start to the end of treatment, with the unit expressed in mg.
The daily dosage of GC	Calculated as the daily use frequency multiplied by the single dose, with the unit expressed in mg per day (mg/d).
The daily per kilogram use dosage of GC	Calculated by dividing the daily use dose by the child's weight at the time of admission (kg), with the unit expressed in mg per kilogram per day (mg/kg*d).
Medication compliance	The definition was determined on the basis of the description in the HER system. Adherence was classified as "poor" if the description indicated "self-adjustment of dose or frequency, self-stopping of medication, or failure to follow the doctor's orders" or "good" if no such issues were noted.

GC glucocorticoids, *PSCC* posterior subcapsular cataract, *SIOH* steroid-induced ocular hypertension, *HER* hospital electronic record

Children with unclear medical histories were excluded from the quantitative calculation of GC use. This includes cases where the current medical history describes "sufficient GC therapy, GC dose increases or decreases, regular GC dose reduction, and self-discontinuation of GC therapy," but does not clearly record the specific types, doses of GCs used, or the start and end times of each adjustment in the context of GC use.

According to previous studies, the cumulative dosage has a significant effect on cataract development, whereas the dose taken at present is more significant for high IOP. Therefore, in this study, for the PSCC and control groups, total GCs categories were divided into 1-3 categories, including all methods of administration from the onset of treatment, and the cumulative duration and dosage of GCs were calculated. For the SIOH and control groups, GCs categories were based on the current usage, and the daily per kilogram dosage of GCs was calculated.

Supplementary Table 3 The definitions or calculation details of the other indicators

Indicators	The definitions or calculation details
The use of other drugs	Included the use of intravenous immunoglobulin and immunosuppressants.
Ophthalmological examination indicators	Included visual acuity (VA), best corrected visual acuity (BCVA), and IOP were measured. IOP was initially measured using a noncontact tonometer (NCT, KT-800 type; Ono, Tokyo, Japan). If the IOP was greater than 21 mmHg, it was remeasured using a Goldmann applanation tonometer (GAT).
Physical examination and laboratory tests	Included height, weight, body mass index (BMI), serum glucose levels, blood pressure, serum lipids, hepatic and renal function tests, and 24-hour urine protein quantification tests.
Hepatic function[3]	Hepatic function was classified on the basis of alanine aminotransferase (ALT) level: ALT<40 U/L was defined as normal hepatic function, 40 ≤ ALT<80 U/L was defined as abnormal hepatic function, and ALT ≥ 80 U/L was defined as hepatic function damage.
Proteinuria[3]	Proteinuria was classified on the basis of the 24-hour urine protein quantification result: 24-hour urine protein<100 mg/m2*d was defined as negative, 100 ≤24-hour urine protein<1000 mg/m2*d was defined as mild to moderate proteinuria, and 24-hour urine protein ≥ 1000 mg/m2*d was defined as severe proteinuria.
Hematuria[3]	Hematuria was classified on the basis of the urinalysis results: red blood cells<10/μL were defined as negative, and red blood cells ≥ 10/μL were defined as hematuria.
BSA[27]	Body surface area (BSA) was calculated according to the Stevenson formula.

Supplementary Table 4 classification criteria for systemic glucocorticoid complications based on ICD

Classification	Included diagnoses	Not included diagnoses
Growth and development	R62.0002,R62.8002,R62.80,R62.000x0012,E41.x002,R62.800x0012,E66.9002,E66.900x0022	None
Blood sugar	R73.0022,E16.8012,E13.9072	None
Blood pressure	I10.x00x0022,I10.x032,I10.x042,I67.4002,I11.9012,I10.x062,I15.100x0012	I27.2012
Blood lipids	R77.800x0012,E78.500,E78.000x001,E78.100x0062,K76.0002,K76.000x0112,K76.000x002	None
Infection	A41.9004,A41.1002,K65.000,K65.903,L03.9002,H00.0032,R57.2002,A41.9012,J32.900x001,J01.9004,J32.9002,J32.200x0012,J32.300x0012,J34.1042,J34.100x0082,J06.9002,J11.1012,J40.x002,J18.0004,J15.9032,J98.400x0162,J18.9034,A16.200x0022,J18.9002,J21.9012,A09.9012,K52.9052,K52.9162,A09.0044,K52.9192,A04.7002,A49.800x0012,N39.0004,B25.9002,A08.2004,B25.800x0012,B00.9012EB,J10.000x0012,J12.0002,A49.3002,B49.x164,B37.400x001+N37.0*4,B35.1002,K14.1002,B36.9012,B37.0014,K12.1122	J31.000x0012,J00.x00x0044,H70.9002,J30.400x0012,J02.900x0042,J36.x00x0034,J36.x00x0014,H00.000x0024,H00.0012,K13.0132,L08.900x0072,L72.0002,B36.000x0032,L08.9002,N34.2022,K62.8152,K29.8012,K29.5012,N00.900x0042,'R76.1002,R57.1002,R57.9002
Skin	L70.9002,R21.x00x0032	None
Skeleton and muscular system	E55.900x0012,E88.902+M90.803*2,Q78.0002,M48.5032,M81.9002,M48.4012,M87.800x0512	N25.002+M90.8*2,M41.9002
Digestive system	K92.2102	None
Endocrine system	E27.400x0062,E27.200x0032,E27.400x005,E27.4062,Q89.2012	R90.8052
Central nervous system	None	M32.114+G94.8*2,G40.800x0042,G91.0002,G31.9022,G93.0012,G93.8082,G96.1032,Q28.300x0012,Q28.300x0072,R90.8002

ICD international classification of diseases

Supplementary Table 5 The disease composition ratio of different subgroups

Diagnosis	PSCC (n=95)	SIOH (n=92)	Controls (n=150)
NS, No.(%)	49(51.6)	40(43.5)	63(42.0)
SLE, No.(%)	29(30.5)	28(30.4)	34(22.7)
Allergic purpura, No.(%)	6(6.3)	14(15.2)	22(14.7)
IgA nephropathy, No.(%)	4(4.2)	3(3.3)	16(10.7)
Others, No.(%)	7(7.4)	7(7.6)	15(10.0)

PSCC posterior subcapsular cataract, *SIOH* steroid-induced ocular hypertension, *NS* Nephrotic syndrome, *SLE* Systemic lupus erythematosus, *IgA* Immunoglobulin A

Supplementary Table 6 Univariable analysis of risk factors associated with PSCC

Variable	PSCC (n=95)	Controls (n=150)	OR(95% CI)	P value
Age of onset, mean(SD), y	7(3.9)	8(3.8)	0.90(0.84-0.96)	0.001
Age at present, mean(SD), y	10(2.9)	10(3.6)	0.98(0.91-1.06)	0.64
Sex, No.(%)			1.20(0.71-2.00)	0.50
Male	49(51.6)	84(56.0)		
Female	46(48.4)	66(44.0)		
IVIG use, No.(%)	29(30.5)	31(20.7)	1.69(0.94-3.04)	0.08
Other drugs, No.(%)	86(90.5)	104(69.3)	4.23(1.96-9.12)	<0.001
Immunomodulator use, No.(%)	82(86.3)	85(56.7)	4.82(2.47-9.41)	<0.001
GC Use way, No.(%)				
Oral only	38(40.0)	62(41.3)	1[Reference]	
Intravenous(+Oral)	57(60.0)	88(58.7)	1.06(0.63-1.78)	0.84
Type of GCs, No.(%)				<0.001
1	20(21.1)	58(38.7)	1[Reference]	/
2	50(52.6)	76(50.7)	1.91(1.03-3.55)	0.04
3	25(26.3)	16(10.7)	4.53(2.02-10.16)	<0.001
Name of GC, No.(%)				
Oral prednisolone	88(92.6)	139(92.7)	1.00(0.37-2.66)	0.99
Oral MPS	48(50.5)	25(16.7)	5.12(2.84-9.20)	<0.001
Intravenous MPS	57(60.0)	90(60.0)	1.00(0.59-1.69)	1.00
Compliance Good, No.(%)	67(70.5)	120(80.0)	0.60(0.33-1.09)	0.09
Systemic ADR of GC, No.(%)	87(91.6)	117(78.0)	3.07(1.35-6.97)	0.01
Growth	55(57.9)	48(32.0)	2.92(1.72-4.98)	<0.001
BG	3(3.2)	1(0.7)	/	/
BP	45(47.4)	47(31.3)	1.97(1.16-3.35)	0.01
Lipids	14(14.7)	18(12.0)	1.27(0.60-2.69)	0.54
Infections	39(41.1)	60(40.0)	1.05(0.62-1.76)	0.87
Skin	2(2.1)	13(8.7)	/	/
Musculoskeletal	41(43.2)	36(24.0)	2.40(1.38-4.18)	0.002
Digestion	1(1.1)	0(0.0)	/	/
Endocrine	6(6.3)	2(1.3)	/	/
CNS	0(0.0)	0(0.0)	/	/
Lg_Duration of GC use, mean(SD), d	2.8(0.4)	2.4(0.5)	4.02(3.00-7.03)	<0.001
Height, mean(SD), cm	132.1(17.3)	137.3(21.1)	0.99(0.97-1.00)	0.05
Weight, mean(SD), kg	36.0(12.2)	37.4(15.2)	1.00(0.97-1.01)	0.19
BMI, mean(SD), kg/m^2	19.5(3.7)	19.0(4.1)	1.03(0.97-1.10)	0.32
GLU, mean(SD), mmol/L	4.7(1.3)	4.6(1.2)	1.10(0.89-1.35)	0.38
SBP, mean(SD), mmHg	115.6(12.0)	112.1(11.5)	1.03(1.00-1.05)	0.03
DBP, mean(SD), mmHg	73.4(11.6)	71.7(10.3)	1.02(0.99-1.04)	0.22
CHOL, mean(SD), mmol/L	7.5(4.8)	6.8(3.3)	1.05(0.98-1.12)	0.17
TG, mean(SD), mmol/L	2.0(1.4)	1.7(1.0)	1.26(1.00-1.58)	0.05
HDL, mean(SD), mmol/L	1.9(0.7)	1.8(0.7)	1.12(0.79-1.60)	0.53

Variable	PSCC (n=95)	Controls (n=150)	OR(95% CI)	P value
LDL, mean(SD), mmol/L	4.5(3.0)	4.1(2.2)	1.06(0.96-1.18)	0.27
ALB, mean(SD), mmol/L	34.4(10.2)	35.3(11.9)	0.99(0.97-1.02)	0.58
hepatic function, No.(%)				0.82
Normal	85(89.5)	134(89.3)	1[Reference]	/
Abnormal	8(8.4)	11(7.3)	1.15(0.44-2.97)	0.78
Damage	2(2.1)	5(3.3)	0.63(0.12-3.32)	0.59
GFR, mean(SD), mmol/L	1.21(0.47)	1.28(0.39)	0.68(0.37-1.25)	0.21
UA, mean(SD), mmol/L	361.3(118.2)	365.8(120.6)	1.00(1.00-1.00)	0.83
Urine Red cell, mean(SD)	29(37.2)	59(46.8)	0.67(0.38-1.20)	0.18
24h urine protein, No.(%)				0.20
Negative	22(26.2)	37(28.0)	1[Reference]	/
Mild-medium	25(29.8)	52(39.4)	0.81(0.30-1.65)	0.56
Large	37(44.0)	43(32.6)	1.45(0.73-2.88)	0.29
LogMAR_VA_OD, mean(SD)	0.3(0.3)	0.2(0.3)	/	/
LogMAR_VA_OS, mean(SD)	0.2(0.3)	0.2(0.3)	/	/
LogMAR_BCVA_OD, mean(SD)	0.09(0.16)	0.04(0.07)	/	/
LogMAR_BCVA_OS, mean(SD)	0.07(0.11)	0.04(0.07)	/	/
NCT_OD, mean(SD), mmHg	18.2(3.6)	17.6(2.8)	/	/
NCT_OS, mean(SD), mmHg	18.2(3.7)	17.6(2.7)	/	/

PSCC posterior subcapsular cataract, *GC* glucocorticoids, *MPS* methylprednisolone, *ADR* adverse drug reaction, *BG* blood glucose, *BP* blood pressure, *CNS* central nervous system, *BMI* body mass index, *GLU* glucose, *SBP* systolic blood pressure, *DBP* diastolic blood pressure, *CHOL* cholesterol, *TG* triglyceride, *HDL* high-density lipoprotein, *LDL* low-density lipoprotein, *ALB* albumin, *GFR* glomerular filtration rate, *UA* uric acid, *LogMAR* logarithm of minimal angle of resolution, *VA* visual acuity, *BCVA* best-corrected visual acuity, *NCT* non-contact tonometer

Supplementary Table 7 Multivariable analysis of risk factors associated with PSCC

Variable	OR(95% CI)	P value
Age	0.87(0.78-0.97)	0.01
Cumulative duration	3.71(1.86-7.41)	<0.001
Hypertension	2.32(1.18-4.56)	0.02
Growth retardation	2.08(1.09-3.95)	0.03
Vitamin D deficiency	2.08(1.05-4.14)	0.04
Use immunosuppressive drugs	4.01(1.78-9.02)	<0.001
Oral MPS	3.30(1.68-6.47)	<0.001

PSCC posterior subcapsular cataract, *MPS* methylprednisolone

Supplementary Table 8 Univariable analysis of risk factors associated with SIOH

Variable	SIOH (n=92)	Controls (n=150)	OR (95% CI)	P value
Age of onset, mean(SD), y	7(3.8)	8(3.8)	0.92(0.86-0.98)	0.02
Age at present, mean(SD), y	9(3.3)	10(3.6)	0.90(0.84-0.98)	0.01
Sex, No.(%)			1.52(0.90-2.55)	0.12
Male	42(45.7)	84(56.0)		
Female	50(54.3)	66(44.0)		
IVIG use, No.(%)	19(20.7)	31(20.7)	1.00(0.53-1.90)	1.00
Other drugs, No.(%)	64(69.6)	104(69.3)	1.01(0.58-1.78)	0.97
Immunomodulator use, No.(%)	58(63.7)	85(56.7)	1.34(0.79-2.30)	0.28
Name of GC, No.(%)				<0.001
Oral prednisolone	46(50.0)	111(76.6)	1[Reference]	/
Oral MPS	20(21.7)	17(11.7)	2.83(1.37-5.90)	0.01
Intravenous MPS	26(28.3)	17(11.7)	3.69(1.83-7.44)	<0.001
Dose of GC, mean(SD), mg/kg*d	0.6(0.6)	1.2(0.6)	5.11(3.03-8.60)	<0.001
Compliance Good, No.(%)	79(85.9)	120(80.0)	1.52(0.75-3.09)	0.25
Systemic ADR of GC, No.(%)	82(89.1)	117(78.0)	2.31(1.08-4.95)	0.03
Growth	46(50.0)	48(32.0)	2.13(1.25-3.62)	0.01
BG	2(2.2)	1(0.7)	/	/
BP	34(37.0)	47(31.3)	1.29(0.74-2.22)	0.37
Lipids	14(15.2)	18(12.0)	1.32(0.62-2.79)	0.47
Infections	41(44.6)	60(40.0)	1.21(0.71-2.04)	0.49
Skin	4(4.3)	13(8.7)	/	/
Musculoskeletal	27(29.3)	36(24.0)	1.32(0.73-2.36)	0.36
Digestion	0(0.0)	0(0.0)	/	/
Endocrine	4(4.3)	2(1.3)	/	/
CNS	0(0.0)	0(0.0)	/	/
Height, mean(SD), cm	127.5(19.8)	137.3(21.1)	0.98(0.97-0.99)	<0.001
Weight, mean(SD), kg	31.8(13.6)	37.4(15.2)	0.97(0.96-0.99)	0.01
BMI, mean(SD), kg/m^2	18.7(3.8)	19.9(4.1)	0.98(0.92-1.05)	0.59
GLU, mean(SD), mmol/L	4.5(1.2)	4.6(1.2)	0.99(0.79-1.23)	0.92
SBP, mean(SD), mmHg	114.0(12.2)	112.1(11.5)	1.01(0.99-1.04)	0.21
DBP, mean(SD), mmHg	74.2(12.1)	71.7(10.3)	1.02(1.00-1.05)	0.09
CHOL, mean(SD), mmol/L	8.9(4.5)	6.8(3.3)	1.15(1.07-1.24)	<0.001
TG, mean(SD), mmol/L	2.4(2.1)	1.7(1.0)	1.45(1.15-1.84)	0.002
HDL, mean(SD), mmol/L	2.3(1.1)	1.8(0.8)	1.89(1.33-2.67)	<0.001
LDL, mean(SD), mmol/L	5.3(2.6)	4.1(2.2)	1.23(1.09-1.38)	<0.001
ALB, mean(SD), mmol/L	31.8(9.8)	35.2(11.8)	0.97(0.95-1.00)	0.02
hepatic function, No.(%)				0.97
Normal	83(90.2)	134(89.3)	1[Reference]	/
Abnormal	6(6.5)	11(7.3)	0.88(0.31-2.47)	0.81
Damage	3(3.3)	5(3.3)	0.97(0.23-4.16)	0.97
GFR, mean(SD), mmol/L	1.3(0.4)	1.3(0.4)	1.03(0.53-2.00)	0.93
UA, mean(SD), mmol/L	359.0(112.7)	364.6(121.0)	1.00(1.00-1.00)	0.72
Urine Red cell, mean(SD)	37(45.7)	59(46.8)	0.96(0.55-1.67)	0.87

Variable	SIOH (n=92)	Controls (n=150)	OR (95% CI)	P value
24h urine protein, No.(%)				0.12
Negative	14(17.3)	37(28.0)	1[Reference]	/
Mild-medium	31(38.3)	52(39.4)	1.58(0.74-3.37)	0.24
Large	36(44.4)	43(32.6)	2.21(1.04-4.72)	0.04
LogMAR_VA_OD, mean(SD)	0.2(0.3)	0.2(0.3)	/	/
LogMAR_VA_OS, mean(SD)	0.2(0.3)	0.2(0.3)	/	/
LogMAR_BCVA_OD, mean(SD)	0.04(0.09)	0.04(0.07)	/	/
LogMAR_BCVA_OS, mean(SD)	0.04(0.09)	0.04(0.07)	/	/
NCT_OD, mean(SD), mmHg	25.0(4.1)	17.6(2.8)	/	/
NCT_OS, mean(SD), mmHg	25.0(4.8)	17.6(2.7)	/	/

SIOH steroid-induced ocular hypertension, *GC* glucocorticoids, *MPS* methylprednisolone, *ADR* adverse drug reaction, *BG* blood glucose, *BP* blood pressure, *CNS* central nervous system, *BMI* body mass index, *GLU* glucose, *SBP* systolic blood pressure, *DBP* diastolic blood pressure, *CHOL* cholesterol, *TG* triglyceride, *HDL* high-density lipoprotein, *LDL* low-density lipoprotein, *ALB* albumin, *GFR* glomerular filtration rate, *UA* uric acid, *LogMAR* logarithm of minimal angle of resolution, *VA* visual acuity, *BCVA* best-corrected visual acuity, *NCT* non-contact tonometer

Supplementary Table 9 Multivariable analysis of risk factors associated with SIOH

Variable	OR(95% CI)	P value
Daily dose of GC per kg	7.24(3.74-14.05)	<0.001
Type of GC		0.01
Oral prednisolone	/	/
Oral MPS	3.60(1.56-8.27)	0.003
Intravenous MPS	0.81(0.31-2.10)	0.67
Growth retardation	3.17(1.67-6.05)	<0.001

SIOH steroid-induced ocular hypertension, *GC* glucocorticoids, *MPS* methylprednisolone

Supplementary Table 10 Subgroup analysis of risk factors associated with SIOH

	SIOH	Controls	OR(95% CI)	P value
Type of GC, No.(%)				
(po. and normal dose only, n=194)				
PDN	46(69.7)	111(86.7)		
MPS	20(30.3)	17(13.3)	2.84(1.37-5.90)	0.01
Use way of MPS, No.(%)				
(normal dose only, n=67)				
Po.	20(52.6)	17(58.6)		
Iv.	18(47.4)	12(41.4)	1.28(0.48-3.38)	0.63
Dose of iv. MPS use, No.(%)				
(n=38)				
Normal dose	18(78.3)	12(80.0)		
Huge dose	5(21.7)	3(20.0)	1.11(0.22-5.54)	0.90

SIOH steroid-induced ocular hypertension, *GC* glucocorticoids, *PDN* prednisolone, *MPS* methylprednisolone, *Po. per os*, *Iv.* intravenous