

**Table SI.** Clinical characteristics and follow-up data of patients with Liddle syndrome carrying *SCNN1B* mutations.

First author, year	Nucleotide change	Protein change	Family	Patient	Age at hypertension diagnosis, years	Phenotype					Follow-up	Blood pressure, mmHg		Serum potassium, mmol/l		Note	(Refs.)
						Hypertension	Hypokalemia	Hypoaldosteronism	Hyporeninemia	Complication		Baseline	Follow-up	Baseline	Follow-up		
Liu <i>et al</i> , 2018	c.C1690T	p.Gln564*	1	1	<30	Y	N	N	Y	Stroke	4.2±2.8 years	167/100	130/80	3.57	3.85	-	(1)
Lu <i>et al</i> , 2022; Qu <i>et al</i> , 2023	c.1691_1693delinsG	p.Gln564Argfs*29	2	2	23	Y	Y	Y	Y	Stroke	12 months	160/100	135/84	3.32	4.98	-	(2,3)
				3	25	Y	Y	Y	Y	-	12 months	178/105	132/82	2.96	5.20	-	
				4	24	Y	Y	Y	Y	-	12 months	150/98	128/80	3.26	4.78	-	
				5	26	Y	Y	N	Y	-	12 months	155/102	126/81	3.17	4.65	-	

											hs						
				6	34	Y	N	N	Y	-	12 mont hs	145/ 98	118/72	3.96	4.80	-	
				7	38	Y	Y	N	N	-	12 mont hs	170/ 106	126/78	2.86	4.59	-	
				8	17	Y	Y	N	Y	-	12 mont hs	170/ 100	116/74	2.67	4.72	-	
Liu <i>et al.</i> , 2018	c.C1696T	p.Arg56 6*	3	9	<30	Y	Y	N	Y	LV hypertro phy	4.2±2 .8 years	165/ 90	105/70	3.06	4.15	-	(1)
				10	<30	Y	Y	Y	Y	-	4.2±2 .8 years	173/ 98	120/80	3.21	3.76	-	
				11	<30	Y	Y	N	Y	-	4.2±2 .8 years	155/ 90	125/70	2.90	4.30	-	
Wang <i>et al.</i> , 2015	c.C1696T	p.Arg56 6*	4	12	13	Y	Y	N	Y	-	1 mont	180/ 110	130/70	3.20	4.02	-	(4)

											h						
Polfus <i>et al</i> , 2016	c.C1696T	p.Arg566*	5	13	5	Y	Y	Y	Y	LV hypertrophy	12 months	154/97	Normal	3.40	3.50	LV hypertrophy resolved	(5)
Cui <i>et al</i> , 2017	c.C1696T	p.Arg566*	6	14	14	Y	Y	Y	Y	Family history of early mortality	-	190/130	120/70	2.50	4.00	-	(6)
			7	15	17	Y	Y	Y	Y	Mother of the patient died of a stroke	-	200/120	125/70	2.90	4.00	-	
Gong <i>et al</i> , 2014	c.C1696T	p.Arg566*	8	16	15	Y	Y	N	N	LV hypertrophy	-	160/120	Controllable	2.86	-	-	(7)

Cui <i>et al</i> , 2017	c.1702C>T	p.Gln568*	9	17	13	Y	Y	Y	Y	-	-	160/ 85	135/85	2.00	3.70	-	(6)
Brower <i>et al</i> , 2021	c.1713delC	p.Tyr571*	10	18	16	N	Y	Y	Y	-	3 mont hs	Nor mal	Norma l	3.20	4.40	-	(8)
Ding <i>et al</i> , 2019	c.1721delC	p.Pro574Hisfs* 102	11	19	18	Y	Y	Y	N	Family history of early- onset stroke	3 years	153/ 102	129/69	3.40	3.60	-	(9)
Jeunemaitre <i>et al</i> , 1997	32 bp nt. 1735_1766	p.Ala579Leufs* 4	12	20	28	Y	Y	Y	Y	Family history of early- onset stroke	11 years	168/ 97	128/70	3.60	4.30	-	(10)
				21	21	Y	Y	Y	Y	-	1 mont h	174/ 125	138/74	3.30	4.30	-	
				22	19	Y	Y	Y	Y	-	1	180/ 127/80	127/80	3.50	3.80	-	

											mont h	111					
				23	13	Y	Y	Y	Y	-	1	155/ 100	129/81	3.30	4.10	-	
											mont h	112					
Gong <i>et al</i> , 2014	c.1789dup C	p.Arg59 7Profs* 11	13	24	15	Y	Y	Y	Y	Father of the patient died of a stroke	2 years	160/ 100	135/80	1.90	-	Died at the age of 20 year s (no auto psy)	(7)
Inoue <i>et al</i> , 1998	c.1789dup C	p.Arg59 7Profs* 11	14	25	15	Y	Y	Y	Y	-	-	158/ 62	144/80	3.20	4.20	-	(11)
Jackson <i>et al</i> , 1998	c.1789dup C	p.Arg59 7Profs* 11	15	26	11	Y	Y	Y	Y	-	-	142/ 100	110/80	3.00	-	-	(12)
				27	-	Y	-	Y	Y	-	-	152/ 100	110/80	-	-	-	

												59					
				28	-	Y	Y	Y	Y	-	-	130/ 94	120/86	3.70	-	-	
Nakano <i>et al</i> , 2002	c.1789dup C	p.Arg59 7Profs* 11	16	29	18	Y	Y	Y	Y	-	-	198/ 120	Norma 1	2.50	Norma 1	-	(13)
Hiltunen <i>et al</i> , 2002	c.1800_18 01insG	p.Thr60 1Aspfs *7	17	30	19	Y	Y	Y	Y	-	12 mont hs	190/ 120	130/95	2.40	3.80	-	(14)
				31	-	Y	Y	-	-	-	1 mont h	174/ 90	141/82	3.30	4.00	-	
Cui <i>et al</i> , 2017	c.1806dup G	p.Pro60 3Alafs* 5	18	32	17	Y	Y	N	Y	Mother of the patient died of a stroke	-	180/ 120	120/80	2.60	4.40	-	(6)
			19	33	23	Y	Y	N	Y	Mother of the patient	-	230/ 150	150/85	2.00	2.90	-	

										died suddenly at the age of 28 years							
				34	10	Y	Y	Y	Y	-	-	190/120	125/85	2.90	4.50	-	
Fan <i>et al.</i> , 2019	c.1806dup G	p.Pro603Alafs*5	20	35	48	Y	N	N	N	Father of the patient died of a stroke	1 month	220/120	140/80	4.80	5.07	-	(15)
				36	25	Y	N	Y	N	-	1 month	200/130	120/80	4.38	4.50	-	
				37	36	Y	Y	N	N	Stroke	1 month	200/140	123/75	3.40	4.11	-	
				38	19	Y	N	Y	N	-	1	180/	140/10	3.57	5.44	-	

											mont h	160	0				
				39	16	Y	N	N	N	-	1 mont h	180/ 108	120/90	4.30	4.84	-	
				40	16	Y	N	Y	Y	-	1 mont h	180/ 110	125/96	3.91	5.11	-	
				41	15	Y	Y	N	N	-	1 mont h	220/ 150	126/88	2.40	5.30	-	
				42	3	Y	Y	Y	Y	-	1 mont h	150/ 130	100/70	2.80	4.38	-	
The present study	c.1806dup G	p.Pro60 3Alafs* 5	21	43	28	Y	Y	Y	Y	Stoke	12 mont hs	151/ 96	120/85	3.21	Norma l	-	-
				44	18	Y	Y	N	N	-	12 mont hs	160/ 100	128/85	2.80	Norma l	-	
				45	32	Y	Y	Y	Y	-	12	167/ 122/84	122/84	3.02	Norma	-	

											mont hs	103			1		
				46	16	Y	Y	Y	N	-	12 mont hs	200/ 140	125/86	3.18	Norma 1	-	
Fan <i>et al</i> , 2018	c.1838delC	p.Pro61 3Glnfs* 63	22	47	50	Y	N	N	Y	-	1 mont h	180/ 88	130/80	4.38	4.67	-	(16)
				48	56	Y	Y	Y	N	-	1 mont h	171/ 85	123/80	3.31	4.23	-	
				49	51	Y	Y	N	Y	-	1 mont h	182/ 130	133/85	3.18	3.98	-	
				50	46	Y	N	N	N	-	1 mont h	153/ 105	120/80	3.74	4.55	-	
				51	30	Y	N	N	Y	-	1 mont h	180/ 121	127/80	4.24	5.12	-	
				52	20	Y	Y	Y	N	Stroke	1	180/ 130/90	130/90	3.38	4.94	-	

											mont h	130					
				53	28	Y	N	Y	Y	-	1 mont h	151/ 110	125/83	3.88	4.73	-	
				54	20	Y	Y	N	N	Father of the patient died of a stoke	1 mont h	220/ 140	130/88	2.86	5.09	-	
				55	8	Y	Y	Y	Y	-	1 mont h	122/ 82	115/75	3.45	4.35	-	
				56	6	Y	Y	Y	Y	-	1 mont h	141/ 84	110/70	2.80	3.87	-	
				57	3	Y	N	Y	N	-	1 mont h	112/5 1	90/40	4.26	4.90	-	
Liu <i>et al</i> , 2018	c.C1847T	p.Pro61 6Leu	23	58	<30	Y	Y	Y	Y	-	4.2±2 .8	165/ 106	120/75	3.00	3.74	-	(1)

										years							
				59	<30	Y	Y	Y	Y	-	4.2±2 .8 years	150/ 90	120/75	3.12	3.92	-	
				60	<30	Y	N	N	Y	-	4.2±2 .8 years	160/ 100	115/70	3.55	4.33	-	
			24	61	<30	Y	N	N	Y	-	4.2±2 .8 years	142/ 96	120/80	3.76	4.42	-	
				62	<30	Y	Y	N	Y	LV hypertr ophy	4.2±2 .8 years	160/ 95	130/90	3.30	3.76	-	
				63	<30	Y	Y	N	Y	-	4.2±2 .8 years	155/ 100	115/70	3.16	3.94	-	
			25	64	<30	Y	Y	Y	Y	-	4.2±2 .8 years	143/ 89	120/85	3.27	4.09	-	
Gao <i>et al.</i> , 2013	c.C1847T	p.Pro61 6Leu	26	65	21	Y	Y	N	Y	LV hypertr	1 mont	200/ 100	126/76	2.58	4.01	-	(17)

								ophy and family history of early- onset stroke	h							
				66	19	Y	Y	N	Y	-	1 mont h	186/ 100	130/86	2.41	4.52	-
				67	15	Y	Y	N	Y	-	1 mont h	180/ 110	128/80	2.64	4.71	-
				68	18	Y	Y	N	Y	-	1 mont h	166/ 106	136/76	2.32	3.96	-
				69	20	Y	Y	N	Y	-	1 mont h	172/ 94	126/80	2.78	4.04	-
				70	18	Y	Y	N	Y	-	1	196/ 120/80	120/80	2.78	4.05	-

											mont h	120					
				71	14	Y	Y	N	Y	-	1	192/ 120	134/78	2.46	4.01	-	
											mont h	120					
Jin <i>et al</i> , 2021	c.1849C>T	p.Pro61 7Ser	27	72	17	Y	Y	N	Y	Father of the patient died of a stroke	-	175/ 125	120/70	2.95	4.00	-	(18)
Cui <i>et al</i> , 2017	c.1849C>T	p.Pro61 7Ser	28	73	15	Y	Y	Y	Y	-	-	190/ 120	135/75	2.90	3.80	-	(6)
Inoue <i>et al</i> , 1998	c.1849C>T	p.Pro61 7Ser	29	74	-	Y	Y	Y	Y	-	-	142/ 92	Norma l	3.40	Norma l	-	(19)
				75	-	Y	Y	Y	Y	-	-	174/ 120	Norma l	3.50	Norma l	-	
				76	-	Y	Y	Y	Y	-	-	160/ 100	Norma l	3.30	Norma l	-	
Caretto <i>et al</i> , 2014	c.1850C>T	p.Pro61 7Leu	30	77	11	Y	Y	-	-	Pregna nt	3 mont	160/ 110	125/85	-	-	Effe ctive	(20)

											hs					control of hypertension during pregnancy	
Rossi <i>et al.</i> , 2011	c.1850C>T	p.Pro617Leu	31	78	17	Y	N	Y	Y	LV hypertrophy	-	167/105	128/84	-	-	-	(21)
				79	18	Y	N	Y	Y	LV hypertrophy	-	150/94	122/81	-	-	-	
				80	22	Y	N	Y	Y	LV hypertrophy	-	149/86	130/76	-	-	-	
Rossi <i>et al.</i> ,	c.1850C>T	p.Pro61	32	81	16	Y	Y	Y	Y	LV	2	164/	127/70	2.80	4.30	-	(22)

2008		7Leu								hypertr ophy and the grand mother of the patient died of a stroke	years	94						
Cui <i>et al.</i> 2017	c.1848_18 49insT	p.Pro61 7Serfs* 5	33	82	13	Y	Y	N	Y	-	-	212/ 120	135/85	3.10	3.70	-	(6)	
Fan <i>et al.</i> 2020	c.1849C>A	p.Pro61 7Tyr	34	83	20	Y	Y	Y	N	-	1 mont h	200/ 150	130/80	3.01	4.43	-	(23)	
				84	15	Y	Y	Y	Y	-	1 mont h	220/ 120	133/87	2.80	4.38	-		
				85	20	Y	Y	Y	N	-	1 mont	180/ 120	126/80	3.41	4.73	-		

											h						
				86	20	Y	Y	Y	Y	-	1 mont h	190/ 130	130/80	3.12	4.66	-	
				87	22	Y	Y	Y	N	Stroke and the grand mother of the patient died of a stroke	1 mont h	220/ 140	125/80	2.54	3.79	-	
				88	8	Y	N	Y	Y	-	1 mont h	150/ 100	115/70	4.15	4.76	-	
Hansson <i>et al</i> , 1995	c.1853C>T	p.Pro61 8Leu	35	89	1.5	Y	Y	Y	Y	-	-	140/ 95	115/63	2.90	-	-	(24)
				90	1.5	Y	Y	Y	Y	-	-	130/ 90	122/70	3.30	-	-	
Gao <i>et al</i> ,	c.1853C>T	p.Pro61	36	91	18	Y	Y	Y	Y	Family	16	230/ 110/84	110/84	2.70	4.20	-	(25)

2001		8Leu								history of early-onset stroke	mont	140					
											hs						
				92	14	Y	Y	Y	Y	-	16	170/120	132/90	2.70	4.60	-	
Tetti <i>et al</i> , 2018	c.1853C>T	p.Pro618Leu	37	93	13	Y	Y	Y	Y	Father of the patient died from sudden cardiac death	-	184/109	120/65	3.20	4.80	-	(26)
Cui <i>et al</i> , 2017	c.1853C>T	p.Pro618Leu	38	94	14	Y	Y	Y	Y	-	-	185/110	125/80	3.00	4.00	-	(6)
Wang <i>et al</i> , 2012	c.1852C>T	p.Pro618Ser	39	95	17	Y	Y	N	Y	-	-	192/120	130/70	2.68	4.10	-	(27)
				96	41	Y	Y	Y	N	-	-	176/	120/76	3.05	3.87	-	

												100					
				97	25	Y	Y	N	Y	-	-	190/ 120	130/70	2.68	4.35	-	
Bogdanovi <i>ć et al,</i> 2012	c.1852C>T	p.Pro61 8Ser	40	98	13	Y	N	Y	Y	Brothe r of the patient died from hyperte nsive crisis and LV hypertr ophy	Sever al days	150/ 100	130/80	4.20	4.50	-	(28)
				99	31	Y	Y	Y	Y	-	Sever al days	150/ 104	Norma l	3.00	-	-	
Furuhashi <i>et al,</i> 2005	c.1853C>G	p.Pro61 8Arg	41	100	26	Y	Y	Y	Y	-	1 week	160/ 90	Decrea sed	2.90	Increas ed	-	(29)
Ciechanow <i>icz et al,</i>	c.1853C>G	p.Pro61 8Arg	42	101	8	Y	Y	Y	Y	-	2 week	155/ 100	Norma l	2.40	Norma l	-	(30)

2005											s						
Freundlich <i>et al</i> , 2005	c.1853C>A	p.Pro61 8His	43	102	4	Y	N	Y	Y	-	60 mont hs	150/ 90	105/63	4.10	Norma 1	-	(31)
Yang <i>et al</i> , 2018	c.1853C>A	p.Pro61 8His	44	103	25	Y	Y	N	N	Family history of early- onset stroke	3 mont hs	180/ 120	100/80	3.11	4.10	-	(32)
				104	11	Y	Y	Y	Y	-	3 mont hs	170/ 120	130/90	2.74	4.30	-	
				105	-	N	Y	Y	Y	-	3 mont hs	130/ 90	100/80	3.13	4.00	-	
Liu <i>et al</i> , 2018	c.1854dup C	p.Asn6 19Glnfs *3	45	106	< 30	N	Y	Y	Y	Mild impair ment of renal functio	4.2±2 .8 years	136/ 88	110/70	2.52	3.61	-	(1)

										n							
Yang <i>et al</i> , 2015	c.1854dup C	p.Asn6 19Glnfs *3	46	107	17	Y	Y	Y	Y	-	1 mont h	160/ 100	110/80	3.17	4.14	-	(33)
Cui <i>et al</i> , 2017	c.1854dup C	p.Asn6 19Glnfs *3	47	108	15	Y	Y	Y	Y	Family history of early- onset stroke		200/ 110	130/80	3.00	3.50	-	(6)

Normal blood pressure range, <140/90 mmHg. Normal serum potassium range, 3.5-5.3 mmol/l. Controllable, blood pressure was under control after precise therapy with epithelial sodium channel blockers (amiloride or triamterene). Y, yes; N, no; LV, left ventricular.

## References

1. Liu K, Qin F, Sun X, et al.: Analysis of the genes involved in Mendelian forms of low-renin hypertension in Chinese early-onset hypertensive patients. *J Hypertens* 36: 502-509, 2018.
2. Lu YT, Liu XC, Zhou ZM, et al.: A Novel Frame-Shift Mutation in SCNN1B Identified in a Chinese Family Characterized by Early-Onset Hypertension. *Front Cardiovasc Med* 9: 896564, 2022.
3. Qu Y, Lu Y, Zhang D, et al.: Identification of a novel frameshift mutation in the SCNN1B causing Liddle syndrome. *Sci Bull (Beijing)* 68: 383-387, 2023.
4. Wang LP, Yang KQ, Jiang XJ, et al.: Prevalence of Liddle Syndrome Among Young Hypertension Patients of Undetermined Cause in a Chinese Population. *J Clin Hypertens (Greenwich)* 17: 902-907, 2015.
5. Polfus LM, Boerwinkle E, Gibbs RA, et al.: Whole-exome sequencing reveals an inherited R566X mutation of the epithelial sodium channel  $\beta$ -subunit in a case of early-onset phenotype of Liddle syndrome. *Cold Spring Harb Mol Case Stud* 2: a001255, 2016.
6. Cui Y, Tong A, Jiang J, Wang F and Li C: Liddle syndrome: clinical and genetic profiles. *J Clin Hypertens (Greenwich)* 19: 524-529, 2017.
7. Gong L, Chen J, Shao L, Song W, Hui R and Wang Y: Phenotype-genotype analysis in two Chinese families with Liddle syndrome. *Mol Biol Rep* 41: 1569-1575, 2014.
8. Brower RK, Ghlichloo IA, Shabgahi V, Elsholz D, Menon RK and Vyas AK: Liddle Syndrome due to a Novel c.1713 Deletion in the Epithelial Sodium Channel  $\beta$ -Subunit in a Normotensive Adolescent. *AACE Clin Case Rep* 7: 65-68, 2021.
9. Ding X, Jia N, Zhao C, et al.: A family with Liddle's syndrome caused by a new c.1721 deletion mutation in the epithelial sodium channel  $\beta$ -subunit. *Exp Ther Med* 17: 2777-2784, 2019.
10. Jeunemaitre X, Bassilana F, Persu A, et al.: Genotype-phenotype analysis of a newly discovered family with Liddle's syndrome. *J Hypertens* 15: 1091-1100, 1997.
11. Inoue T, Okauchi Y, Matsuzaki Y, et al.: Identification of a single cytosine base insertion mutation at Arg-597 of the beta subunit of the human epithelial sodium channel in a family with Liddle's disease. *Eur J Endocrinol* 138: 691-697, 1998.
12. Jackson SN, Williams B, Houtman P and Trembath RC: The diagnosis of Liddle syndrome by identification of a mutation in the beta subunit of the epithelial sodium channel. *J Med Genet* 35: 510-512, 1998.
13. Nakano Y, Ishida T, Ozono R, et al.: A frameshift mutation of beta subunit of epithelial sodium channel in a case of isolated Liddle syndrome. *J Hypertens* 20: 2379-2382, 2002.
14. Hiltunen TP, Hannila-Handelberg T, Petäjaniemi N, et al.: Liddle's syndrome associated with a point mutation in the extracellular domain of the epithelial sodium channel gamma subunit. *J Hypertens* 20: 2383-2390, 2002.
15. Fan P, Lu CX, Yang KQ, et al.: Truncated Epithelial Sodium Channel  $\beta$  Subunit Responsible for Liddle Syndrome in a Chinese Family. *Kidney Blood Press Res* 44: 942-949, 2019.
16. Fan P, Lu CX, Zhang D, et al.: Liddle syndrome misdiagnosed as primary aldosteronism resulting from a novel frameshift mutation of SCNN1B. *Endocr Connect* 7: 1528-1534, 2018.
17. Gao L, Wang L, Liu Y, Zhou X, Hui R and Hu A: A family with Liddle syndrome caused by a novel missense mutation in the PY motif of the beta-subunit of the epithelial sodium channel. *J Pediatr* 162: 166-170, 2013.
18. Jin Y, Qiu W and Yao J: Liddle syndrome: A case report. *Med Clin (Barc)* 2021.
19. Inoue J, Iwaoka T, Tokunaga H, et al.: A family with Liddle's syndrome caused by a new missense mutation in the beta subunit of the epithelial sodium channel. *J Clin Endocrinol Metab* 83: 2210-2213, 1998.
20. Caretto A, Primerano L, Novara F, Zuffardi O, Genovese S and Rondinelli M: A Therapeutic Challenge: Liddle's Syndrome Managed with Amiloride during Pregnancy. *Case Rep Obstet Gynecol* 2014: 156250, 2014.
21. Rossi E, Farnetti E, Nicoli D, et al.: A clinical phenotype mimicking essential hypertension in a newly discovered family with Liddle's syndrome. *Am J Hypertens* 24: 930-935, 2011.
22. Rossi E, Farnetti E, Debonneville A, et al.: Liddle's syndrome caused by a novel missense mutation (P617L) of the epithelial sodium channel beta subunit. *J Hypertens* 26: 921-927, 2008.
23. Fan P, Zhang D, Pan XC, et al.: Premature Stroke Secondary to Severe Hypertension Results from Liddle Syndrome Caused by a Novel SCNN1B Mutation. *Kidney Blood Press Res* 45: 603-611, 2020.

24. Hansson JH, Schild L, Lu Y, et al.: A de novo missense mutation of the beta subunit of the epithelial sodium channel causes hypertension and Liddle syndrome, identifying a proline-rich segment critical for regulation of channel activity. *Proc Natl Acad Sci U S A* 92: 11495-11499, 1995.
25. Gao PJ, Zhang KX, Zhu DL, et al.: Diagnosis of Liddle syndrome by genetic analysis of beta and gamma subunits of epithelial sodium channel--a report of five affected family members. *J Hypertens* 19: 885-889, 2001.
26. Tetti M, Monticone S, Burrello J, et al.: Liddle Syndrome: Review of the Literature and Description of a New Case. *Int J Mol Sci* 19, 2018.
27. Wang LP, Gao LG, Zhou XL, et al.: Genetic diagnosis of Liddle's syndrome by mutation analysis of SCNN1B and SCNN1G in a Chinese family. *Chin Med J (Engl)* 125: 1401-1404, 2012.
28. Bogdanović R, Kuburović V, Stajić N, et al.: Liddle syndrome in a Serbian family and literature review of underlying mutations. *Eur J Pediatr* 171: 471-478, 2012.
29. Furuhashi M, Kitamura K, Adachi M, et al.: Liddle's syndrome caused by a novel mutation in the proline-rich PY motif of the epithelial sodium channel beta-subunit. *J Clin Endocrinol Metab* 90: 340-344, 2005.
30. Ciechanowicz A, Dolezel Z, Placha G, et al.: Liddle syndrome caused by P616R mutation of the epithelial sodium channel beta subunit. *Pediatr Nephrol* 20: 837-838, 2005.
31. Freundlich M and Ludwig M: A novel epithelial sodium channel beta-subunit mutation associated with hypertensive Liddle syndrome. *Pediatr Nephrol* 20: 512-515, 2005.
32. Yang KQ, Lu CX, Fan P, et al.: Genetic screening of SCNN1B and SCNN1G genes in early-onset hypertensive patients helps to identify Liddle syndrome. *Clin Exp Hypertens* 40: 107-111, 2018.
33. Yang KQ, Lu CX, Xiao Y, et al.: A novel frameshift mutation of epithelial sodium channel  $\beta$ -subunit leads to Liddle syndrome in an isolated case. *Clin Endocrinol (Oxf)* 82: 611-614, 2015.