

## Supporting Information

**Supplement Table 1. Inclusion and exclusion criteria for our study**

<b>Inclusion</b>	<b>Exclusion</b>
<p>*IgAV diagnostic criteria</p> <ol style="list-style-type: none"><li>1. Palpable purpura, not thrombocytopenic/petechiae</li><li>2. Diffuse abdominal pain</li><li>3. Histopathology Typical LCV with predominant IgA deposits or proliferative glomerulonephritis with predominant IgA deposits</li><li>4. Arthritis or arthralgias</li><li>5. Renal involvement Proteinuria: &gt;0.3g/24h or &gt;30 mmol/mg of urine albumin to creatinine ratio on a spot morning sample; Hematuria, red blood cell casts: &gt;5 red cells per high power field or <math>\geq 2+</math> on dipstick or red blood cell casts in the urinary sediment</li></ol>	<p>Skin eruption caused by trauma, idiopathic thrombocytopenic purpura, vasculitis and other factors</p> <p>Abdominal pain caused by acute abdominal symptoms, chronic gastroenteritis, urticaria, etc</p> <p>Joint pain caused by gout, rheumatoid / rheumatoid arthritis, ankylosing spondylitis, osteoarthritis, developmental deformity and other factors</p> <p>Kidney diseases caused by nephrotic syndrome, lupus, hepatitis B, diabetes, nephritis, severe infection, tumor, drugs and other factors</p>

\*1 and one of the following

**Supplement Table 2. Different clinical phenotypes of IgAV**

<b>Clinical phenotype</b>	<b>Criteria</b>
<b>Skin-limited (purpura)</b>	Only skin palpable epilepsy was present, and evidence of other system involvement was excluded
<b>Gastrointestinal involvement</b>	Skin palpable epilepsy with digestive system symptoms (abdominal pain, stool occult blood positive, intussusception, intestinal obstruction, intestinal perforation, etc.)
<b>Joint involvement</b>	Skin palpable epilepsy with swelling, pain / tenderness or arthritis in and around joints, with limited movement
<b>Kidney involvement</b>	Skin palpable epilepsy with kidney injury (hematuria, proteinuria, tubular urine, hypertension, etc.)
<b>Multiple system involvement</b>	Except for simplex type, two or more of the other three types exist at the same time

**Supplement Table 3. Multivariate analysis of clinical characteristics of healthy control group and IgAV patients**

<b>Variable</b>	<b><math>\beta</math></b>	<b>SE</b>	<b>Wald <math>\chi^2</math></b>	<b><i>P</i></b>	<b>OR(95%CI)</b>
ALT	0.028	0.012	5.734	0.017	1.028(1.005,1.052)
Alb	-0.271	0.039	47.225	<0.001	0.763(0.706,0.824)
MHR	1.493	0.749	3.973	0.046	4.451(1.025,19.322)

*P*<0.05, the difference was statistically significant.

**Supplement Table 4. Comparison of clinical characteristics of Different clinical phenotypes of IgAV**

Clinical items	Overall	IgAV					P value
		Skin-limited (n=28)	Gastrointestinal Involvement (n=26)	Joint Involvement (n=11)	Kidney Involvement (n=39)	Multiple system Involvement (n=54)	
Male, %	74(46.84%)	8(28.57%)	17(65.38%)	4(36.36%)	14(35.90%)	31(57.41%)	0.016
Age,years	43.3±22.55	53.07±24.39	34.19±17.43	43.18±21.54	42.13±23.97	43.5±21.65	0.045
BMI	22.21±3.92	21.94±2.73	20.85±4.28	24.57±5.81	23.16±3.51	21.61±3.76	0.087
Disease duration	19.5(7,75)	11.5(3,45)	15(8,20)	7(4,14)	90(10,720)	18(9,45)	0.001
WBC,10 <sup>9</sup> /L	7.2(5.48,9.79)	5.22(4.42,6.8)	10.22(8.3,13.14)	5.74(4.57,10.51)	6.65(5.48,9.03)	8.39(6.13,11.43)	<0.001
PLT,10 <sup>9</sup> /L	221(159,284)	208(125,258)	270(221,331)	1.38(1.21,1.73)	214(172,267)	246(188,288)	<0.001
Lymphocyte,10 <sup>9</sup> /L	1.64(1.24,2.06)	1.39(1.11,1.82)	1.45(1.26,1.84)	3.67(2.56,7.33)	1.87(1.42,2.43)	1.4(1.17,1.94)	<0.001
Neutrophil,10 <sup>9</sup> /L	4.37(2.86,6.64)	3.48(2.47,4.37)	8.07(5.81,10.92)	0.08(0.02,0.2)	4.16(3.62,5.24)	4.7(3.26,7.71)	<0.001
Eosinophil,10 <sup>9</sup> /L	0.12(0.04,0.22)	0.13(0.06,0.19)	0.1(0.03,0.21)	6.2(4.9,8.9)	0.1(0.05,0.16)	0.09(0.02,0.19)	<0.001
Monocyte,10 <sup>9</sup> /L	0.39(0.31,0.59)	0.36(0.3,0.48)	0.6(0.36,0.66)	0.94(0.33,2.32)	0.39(0.29,0.56)	0.39(0.31,0.56)	0.025
D-Dimer	2.64(0.46,7.87)	0.74(0.36,2.85)	3.4(1.05,7.87)	268(179,311)	0.42(0.22,3.46)	4.29(1.91,9.5)	<0.001
PCT,ng/L	0.05(0.04,0.08)	0.05(0.04,0.12)	0.05(0.03,0.12)	0.02(0.02,0.02)	0.06(0.05,1.15)	0.05(0.04,0.07)	0.064
CRP,mg/L	10.6(5,25.3)	7.27(2.42,11.35)	21.3(5.4,35.85)	11.1(4.91,20)	4.49(2.56,10.2)	19.3(7.39,35.6)	0.015
*NLR	2.84(1.86,4.79)	2.35(1.66,3.47)	5.71(3.52,8)	2.44(1.61,4.19)	2.24(1.71,3.53)	3.16(1.94,4.68)	<0.001
*PLR	143.51(106.45,213.3)	126.98(113.57,165.25)	175.79(119.34,249.15)	183.33(86.86,236.81)	127.25(100.14,173.1)	149.28(102.72,229.78)	0.088
Creatinine,umol/L	65(55,79)	60(53,70.5)	68(60,83)	56(51,62)	70(57,83)	66(55,79.5)	0.030
Urea nitrogen,mmol/L	4.8(3.8,6.2)	5(3.7,6.05)	4.2(3.4,7.7)	4.2(3.9,4.9)	5(3.9,7)	4.9(4.6,95)	0.269
ALT,U/L	19(12,28)	15(10,21)	23(17,43)	16(11,27)	18.5(11,26)	22(14,33)	0.048
AST,U/L	19(15,24)	17(14,20)	20(16,27)	17(14,22)	19(15,23)	19(15,25)	0.701
Alb,g/L	39(34,43)	40(37,43)	38(33,42)	41(34,45)	39(37,43)	37(32,40)	0.112

Total cholesterol,mmol/L	3.8(3.34,4.55)	3.75(3.47,4.25)	3.57(3.11,4.09)	3.78(2.77,4.64)	3.91(3.37,4.7)	3.91(3.34,4.39)	0.433
Triglyceride,mmol/L	1.15(0.82,1.59)	1.05(0.78,1.77)	1.16(0.91,1.55)	0.8(0.56,0.92)	1.15(0.88,2.03)	1.17(0.84,1.76)	0.061
HDL,mmol/L	1.12(0.9,1.35)	1.17(0.99,1.37)	1.07(0.9,1.23)	1.16(0.97,1.45)	1.16(0.89,1.41)	1.12(0.87,1.34)	0.429
LDL,mmol/L	2.33(1.81,2.95)	2.28(1.81,2.78)	2.17(1.66,2.68)	2.27(1.49,3.08)	2.48(1.83,3.06)	2.4(1.9,2.94)	0.647
Apolipoprotein a,g/L	1.17(1.01,1.38)	1.3(1.18,1.49)	1.08(0.97,1.19)	1.16(1.03,1.45)	1.25(1.08,1.49)	1.1(0.93,1.34)	0.003
Apolipoprotein b,g/L	0.81(0.66,0.98)	0.73(0.64,1)	0.83(0.63,0.98)	0.82(0.6,1.03)	0.85(0.59,1.03)	0.84(0.69,0.94)	0.865
Lipoprotein α,mmol/L	146(72,355)	91.5(41.5,197)	144(96,360)	230.5(75.5,482)	144(92,288)	166.5(54,574)	0.441
*AIP	0.02(-0.2,0.2)	-0.07(-0.17,0.17)	0.03(-0.1,0.22)	-0.16(-0.38,-0.02)	0.03(-0.2,0.25)	0.11(-0.22,0.25)	0.146
MHR	0.38(0.25,0.53)	0.31(0.23,0.43)	0.51(0.29,0.69)	0.37(0.27,0.47)	0.33(0.2,0.49)	0.42(0.28,0.62)	0.032
C3,g/L	0.91(0.76,1.1)	0.83(0.76,0.97)	1.07(0.91,1.43)	0.84(0.73,1.14)	0.98(0.81,1.19)	0.83(0.71,1.04)	0.136
C4,g/L	0.23(0.17,0.28)	0.23(0.17,0.29)	0.33(0.24,0.36)	0.19(0.13,0.23)	0.23(0.17,0.27)	0.2(0.16,0.28)	0.021
IgA,g/L	2.91(2.19,3.76)	3.05(2.26,3.51)	2.86(2.25,3.7)	4.62(4.37,5.63)	3.07(2.08,3.65)	2.76(1.92,3.76)	0.154
IgG,g/L	11.2(8.99,12.8)	12.4(10.3,12.8)	9.39(9.29,11.7)	15.2(12.5,19.6)	10.7(8.92,12.8)	11(7.92,12.7)	0.042
IgM,g/L	1.04(0.72,1.39)	1.05(0.95,1.17)	1.1(0.67,1.42)	1.91(1.48,2.18)	1.07(0.88,1.69)	0.84(0.51,1.26)	0.098
Time to First Remission,day	4.18±2.20	3.32±1.28	4.4±2.11	3.4±1.21	4.83±2.55	4.40±2.42	0.001

\*NLR: Neutrophil/Lymphocyte Ratio; PLR: PLT/Lymphocyte Ratio; AIP: Log(Triglyceride/HDL); MHR: Monocyte/HDL Ratio;

a: Compared with skin, the difference was statistically significant; b: Compared with Gastrointestinal involvement, the difference was statistically significant; c: Compared with Joint involvement, the difference was statistically significant; b: Compared with Gastrointestinal involvement, the difference was statistically significant; d: Compared with Kidney involvement, the difference was statistically significant; e: Compared with Multiple system involvement, the difference was statistically significant.

$P < 0.05$ , the difference was statistically significant.

**Supplement Table 5. Multivariate analysis of clinical characteristics between Gastrointestinal involvement and other IgAV patients**

<b>Variable</b>	<b><math>\beta</math></b>	<b>SE</b>	<b>Wald <math>\chi^2</math></b>	<b><i>P</i></b>	<b>OR(95%CI)</b>
*PLR	0.005	0.002	5.486	0.019	1.005(1.001,1.009)
ALT	0.025	0.012	4.449	0.035	1.026(1.002,1.050)
MHR	1.099	0.515	4.549	0.033	3.001(1.093,8.241)

*P*<0.05, the difference was statistically significant.