

Cyclophosphamide combined with glucocorticoids versus glucocorticoids alone in the treatment of patients of primary sjogren's syndrome with tubulointerstitial nephritis



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Aim : Evaluate clinical outcomes between patients treated with cyclophosphamide combined with glucocorticoids and those with glucocorticoids alone.

Methods : All cases of primary sjogren's syndrome with chronic tubulointerstitial nephritis admitted to the Division of Nephrology, Ruijin Hospital from 2002-1-1 to 2016-4-30 and treated with steroids alone or combined with cyclophosphamide. Patients' prognoses of immunology and renal function were retrospectively compared between two therapeutic groups.

Results :

Table 1. Baseline characteristics and treatment efficiencies compared between two therapeutic groups.

variables	CTX group (14)	steroid (56)	group p value
Age(Y)	44.29 ± 14.56	46.86 ± 11.86	0.49
female(n, %)	12(85.7)	53(94.6)	0.26
hypertension(n, %)	5(35.7)	14(25.9)	0.51
dry mouth(n, %)	12(85.7)	42(85.7)	1
dry eyes(n, %)	9(75)	34(69.4)	1
SSA(+)(n, %)	11(78.6)	43(76.8)	1
SSB(+)(n, %)	12(85.7)	30(53.6)	0.028
IgG(mg/dl)	2705.39 ± 1446.68	2334.43 ± 708.15	0.39
Hb(g/l)	107.31 ± 16.63	114.79 ± 18.01	0.18
Alb(g/l)	38 ± 4.49	38.11 ± 3.75	0.93
RTA(n, %)	14(100)	45(80.4)	0.11
baseline eGFR(ml/min/1.73 m2)	47.97 ± 28.17	64.86 ± 30.45	0.073
Haematological involvement(n, %)	4(28.6)	19(34.5)	0.76
Autoimmune thyroid diseases(n, %)	3(25)	18(50)	0.13
Interstitial lung disease(n, %)	0(0)	3(5.4)	1
initial steroid dose(mg/d)	28.57 ± 7.95	25.67 ± 9.02	0.28
decline of serum IgG level(mg/dl)	450(910)	176(1910)	0.93
improvement of eGFR(ml/min/1.73 m2)	21.35 ± 19.63	2.72 ± 19.11	0.006

Table 2. Association between improvement of eGFR, as dependent variable, with clinical characteristics, laboratory parameters and therapeutic regimens as predictor variables.

Predictor variable	Model 1		Model 2	
	β	95%CI	β	95%CI
Age, Y	-0.14	-0.61-0.33		
Gender, female	-4.2	-25.63-17.23		
hypertension, >140/90mmHg	0.9	-11.49-13.29		
dry mouth	-21.78	-37.15-(-6.42)**	-16.83	-28.22-(-5.45)**
dry eyes	-4.32	-16.63-7.99		
SSA(+)	-20.28	-32.15-(-8.42)**	-3.5	-14.73-7.64
SSB(+)	-13.2	-24.03-(-2.37)*	-7.38	-16.91-2.16
IgG, mg/dl	0.001	-0.006-0.008		
Hb, g/l	-0.5	-0.79-(-0.22)**	-0.3	-0.52-(-0.07)*
Alb, g/l	-1.31	-3.04-0.42		
RTA	0.72	-13.71-15.15		
baseline eGFR,ml/min/1.73m2	-0.37	-0.52-(-0.22)***	-0.21	-0.36-(-0.05)*
Haematological involvement, n	-3.22	-14.78-8.34		
Autoimmune thyroid diseases, n	-11.54	-24.77-1.7		
Interstitial lung disease, n	-10.83	-40.46-18.81		
initial steroid dose(mg/d)	1.2	0.62-1.78***	0.44	-0.03-0.92
CTX vs steroid	18.63	5.68-31.58**	12.96	2.95-22.97*

All models were calculated by linear regression. Model 1 was univariate analysis. Model 2 was multivariate analysis, according to the results of univariate analysis.

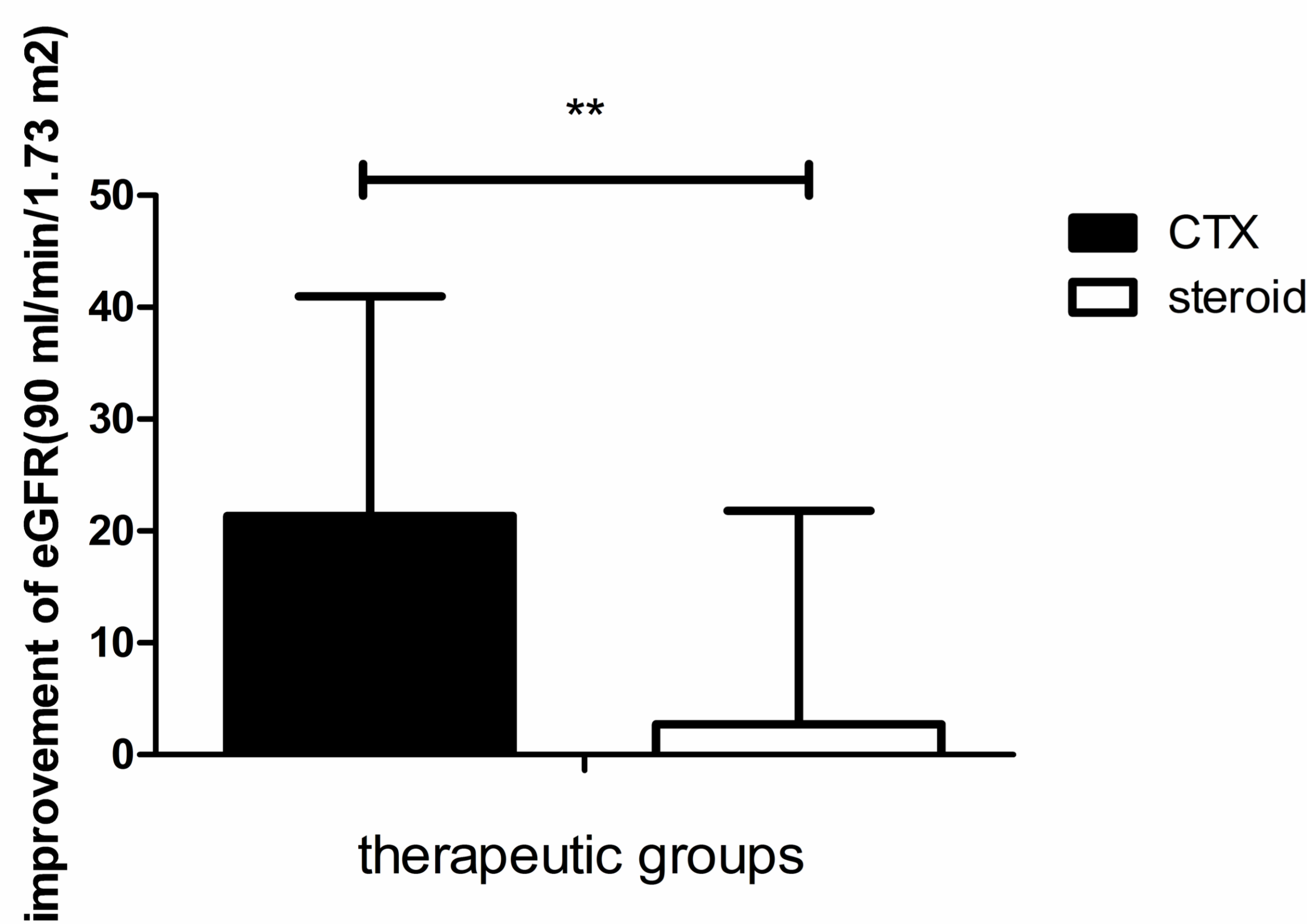


Figure 1. Improvement of eGFR at 12 months of follow up. CTX: cyclophosphamide; **: p < 0.01.

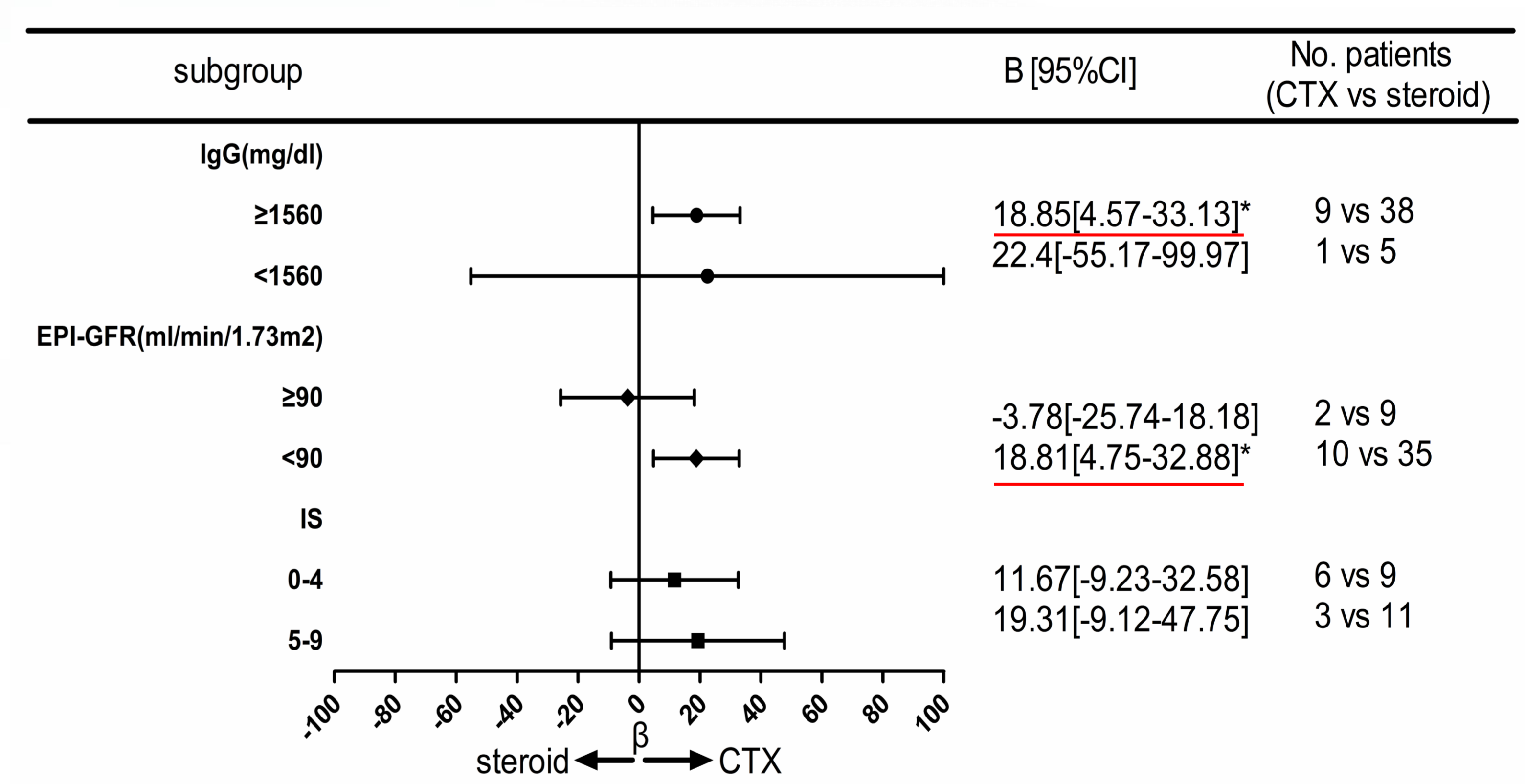


Figure 2: Subgroup analyses.

All results presented were calculated by linear regression; CI: confidence interval; CTX: cyclophosphamide; IgG: immunoglobulin G; IS: interstitial score; *: p < 0.05.

Conclusion : Cyclophosphamide therapy is suggested to SS patients with chronic tubulointerstitial nephritis, especially to those with higher IgG levels and abnormal renal functions at baseline.

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