



POSTER PRESENTATION

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Influence of TNF α -308 and T676G TNF-RII polymorphism on response to etanercept and possibility to discontinue treatment

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Background

Genetic contribution of TNF α -308 promoter and T676G TNF-RII polymorphism on response to TNF-blocking agents in JIA is not yet well established.

Methods

Genomic DNA was extracted and TNF α -308 promoter and T676G TNF-RII polymorphism was evaluated using the PCR-RFLP method in 60 JIA patients treated with etanercept. Time cut of point for outcome data analysis was 4 years.

Results

Average duration of etanercept therapy was 34.61±12.11 months. Disease subtype distribution was 6.78% systemic, 54.24% poly RF- and extended-oligo, 18.64% poly RF+, 16.95% ERA and 3.38% PsA. The distribution of TNF α 308 and T676G genotypes was not significantly different among JIA subtypes. TNF α 308 genotypes distribution was 6.78% AA, 30.51% GG and 62.71% GA while T676G genotypes were 59.3% TT, 8.3% GG and 26.4% TG. T676G genotype polymorphism did not significantly influence outcome. ACR Pedi 30,50,70 and 100 improvement was significantly faster and sustained

in TNF α 308 GG-genotype patients compared to GA genotype (results shown in table: *significant compared to 1 year; a-significant compared to GG). Treatment induced remission in 35.14%, had to be reintroduced due to disease worsening in 16.22%, disease was in remission under medication in 21.62% or still active in 24.32% GA patients and in 38.9%, 16.7%, 27.8% and 11.1% in GG patients, respectively. Patients with systemic or RF+ disease course were mostly treatment resistant in both genotypes. (Table 1)

Conclusion

JIA patients with GG TNF α 308 genotype can achieve better outcome and etanercept treatment can be stopped earlier compared to GA genotype patients who need two years of treatment to achieve same results. TNF α 308 genotype could be useful clinical predictive biomarker for treatment response in all disease subtypes except systemic and RF positive JIA.

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Table 1

ACR	30		50		70		100	
%	GG	GA	GG	GA	GG	GA	GG	GA
1 year	5.6	18.9 ^a	22.2	35.14 ^a	22.2	32.43 ^a	50.9	13.51 ^a
2 years		14.71 ^a	5.6*	17.65 ^{*a}	44.4*	44.12*	50.0	23.52 ^{*a}

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