Pediatric Rheumatology

Poster presentation

DNase I levels in JIA – influence of anti-TNF (etanercept) therapy

J Vojinovic*[1], J Basic[1], G Susic[2], T Jevtovic-Stoimenov[1], N Damjanov[2] and D Pavlovic[1]

Address: [1]Ped Rheumatol, Faculty of Medicine, Nis, Serbia and [2]Institute of Rheumatology, Belgrade, Serbia
* Corresponding author

from 15th Paediatric Rheumatology European Society (PreS) Congress
London, UK. 14–17 September 2008

Published: 15 September 2008

Pediatric Rheumatology 2008, **6**(Suppl 1):P38 doi:10.1186/1546-0096-6-S1-P38

This abstract is available from: http://www.ped-rheum.com/content/6/S1/P38

Background

Failure to efficiently degrade the DNA of apoptotic cells activates innate immunity causing chronic arthritis. If deficient, Dnase I could lead to accumulation of undigested DNA which induce activation of phagocytes and production of proinflammatory cytokines, notably TNF.

Methods

The study was performed in 25 JIA patients who donated paired serum samples prior and one year after continous etanercept therapy. Basic clinical data (six core set variables defined in ACR PEDI outcome score) were recorded along with alkalyne DnaseI serum levels using the method where acid soluble nucleotides are determined spectrophotometrically at 260 nm. Treatment schedule of etanercept was 0, 4 mg/kg body weight subcutaneously twice weekly.

Results

JIA patients mean age was 14,7 +/- 4,22 and disease duration is 6,59 +/- 2,76. Disease type distribution was 8% systemic, 28% polyarticular RF-, 25% polyarticular RF+, 17% ERA and 21% extended oligoarticular JIA. Summary of data results prior and after anti TNFα therapy: ESR 26,88 vs. 15,52 ($p < 0,01$); patientVAS 40,24 vs. 24,40 ($p < 0,05$); physicianVAS 38,08 vs. 10,32 ($p < 0,01$); CHAQ 0,674 vs.0,375 ($p < 0,01$); LOM 15,52 vs. 11,68 (NS); AA 9,24 vs.2,64 ($p < 0,01$). DNaseI levels were significantly lower prior (2.934 U/l) compared to values after one year therapy (4,184 U/l; $p < 0,01$). We have found correlation between DNaseI levels and AA ($r = -0,993$ $p < 0,5$) and other clinical outcome variables prior and after therapy.

Conclusion

JIA patients with active disease have decreased DNase I levels. Our results indicate significant increase of DNaseI in the sera of JIA patients after one year of anti TNFα therapy which was associated to the disease clinical improvement.