



POSTER PRESENTATION

Open Access

DNase I levels and disease outcome in JIA patients treated with etanercept

D Lazarević^{1*}, J Vojinović¹, G Sušić², N Damjanov², J Bašić³

From 18th Pediatric Rheumatology European Society (PReS) Congress Bruges, Belgium. 14-18 September 2011

Background

Failure to efficiently degrade the DNA of apoptotic cells activates innate immunity, by induction of TNF α and IFN β production, 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.

Aim

Disease outcome in JIA patients after one year of treatment with TNF α therapy and their DNase I levels.

Methods

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

Results

JIA patients mean age was 14,7 \pm 4,22 and disease duration is 6,59 \pm 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 TNF α 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 ($p<0,01$). DNase I 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 DNase I 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 DNase I in the sera of JIA patients after one year of anti TNF α therapy which was associated to the disease clinical improvement.

Author details

¹Department of Pediatric Rheumatology, University Clinical Center Niš, Serbia. ²Institute of Rheumatology, Belgrade, Serbia. ³Department of Biochemistry, Faculty of Medicine, Niš, Serbia.

Published: 14 September 2011

doi:10.1186/1546-0096-9-S1-P171

Cite this article as: Lazarević *et al.*: DNase I levels and disease outcome in JIA patients treated with etanercept. *Pediatric Rheumatology* 2011 **9** (Suppl 1):P171.

Submit your next manuscript to BioMed Central and take full advantage of:

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit



* Correspondence: lazarevic.gaga@gmail.com

¹Department of Pediatric Rheumatology, University Clinical Center Niš, Serbia
Full list of author information is available at the end of the article