

Poster presentation

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## Bone mineral density improvement after one year of treatment with etanercept in patients with juvenile idiopathic arthritis

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### Background

Multiple risk factors are playing role in development of osteopenia in JIA. One of the most important is inflammatory nature of disease. Etanercept induces rapid and sustained suppression of JIA disease activity and could have protective effect on bone.

### Aim of the study

To assess influence of etanercept on bone mineral density (BMD) in patients with JIA.

### Patients and methods

In prospective study of 37 JIA pts (26 F, 11 M), mean age 16,3 yrs. with polyarthricular course, we have assessed BMD and bone mineral content (BMC) by dual x-ray absorptiometry on the lumbar spine (L2–L4) before and one or two years (in 13 pts) after introduction of etanercept.

Results of osteodentometry assessment (mean value) are presented on table 1.

After the first year of treatment we have noticed significant improvement of all ostedensitometric values. Mean value difference for BMD, compare to baseline was 7,1% ( $p < 0,001$ ) for Z score 17,76% ( $p = 0,002$ ), for BMC 13,13% ( $p < 0,001$ ) and for BMD<sub>vol</sub> 5% ( $p < 0,001$ ). Bone mineral status continued to increase during the second years of treatment as well (13 pts) ( $p < 0,001$ ).

### Conclusion

Our results demonstrated efficacy of etanercept, as TNF blocker, in improving bone mineral status and precluding of osteoporosis development in children with JIA. This beneficial effect on bone was demonstrated on the end of second year of treatment.

**Table 1:**

variables	baseline	after 1 <sup>st</sup> year
BMD (g/cm <sup>2</sup> )	0,909	0,965
Z (SD)	-1,2	-0,93
BMC (g/cm)	32,68	36,08
BMD <sub>vol</sub> (g/cm <sup>3</sup> )*	0,314	0,329

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