



POSTER PRESENTATION

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# Comparison of different treatment approaches in chronic non-bacterial osteomyelitis.

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Chronic non-bacterial osteomyelitis (CNO) is a heterogeneous group of immune-mediated inflammatory bone diseases, which often co-exist with other rheumatic diseases. There are no approved treatments for CNO, except non-steroid anti-inflammatory drugs (NSAID). The efficacy of methotrexate (MTX), sulfasalazine, pamidronate (PAM), anti-IL1 and TNF $\alpha$ -inhibitors was shown in different reports, but there are some concerns about safety of pamidronate due to long-term accumulation and persistence in bone.

The aim of our study was to compare the efficacy of non-randomized different treatment approaches in pediatric patient cohort with CNO.

## Materials

37 children (16 M and 21 F) with CNO from medical centers in Saint Petersburg. The average age at the onset of disease was 8.5 years (5.9÷10.5), the number of foci - 3.0 (2.0÷6.5, incl. multifocal cases in 78.4%), fever at the onset - 37.8%, spine involvement - 32.4%, positive family autoimmune diseases (AID) history - 8.1%, concomitant AID - 64.9%. NSAID was the first-line treatment for non-vertebral cases, as well as PAM for vertebral involvement. Second-line treatment includes MTX, PAM and TNF $\alpha$ -inh. Dynamics of pain, patient's (PVAS) and physician's (MDVAS) assessment of CNO activity we evaluated.

## Results

According to the NSAID, MTX, PAM and TNF $\alpha$ -inh groups next data were registered:

PVAS: -26.2% (p=0.05), -14.6% (p=0.06), -84.7% (p=0.0002), -75.6% (p=0.012);

pain: -36.4% (p=0.028), -15.6% (p=0.31), -84.8% (p=0.0002), -82.6% (p=0.012);

MDVAS: -33.8% (p=0.08); +2.4% (p=0.24), -81.4% (p=0.0002), -75.8% (p=0.012), respectively.

The therapy was effective in 38.9%, 57.1%, 83.3% and 88.8% respectively (log-rank test, p=0.012). TNF $\alpha$ -inh usually used as second-third line treatment in cases where other options, especially PAM were fail.

## Conclusions

The most effective treatment approaches for CNO were PAM and TNF $\alpha$ -inh. The randomized controlled trials for assessment efficacy and safety of these medications is mandatory to confirm these results.

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