



Pamidronate in CRMO: advantages of early treatment?

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Introduction:

Chronic recurrent multifocal osteomyelitis (CRMO) primarily affects long bones and spine. Clinical manifestations include pain, swelling, restricted movement, and vertebral fractures.

Pamidronate is an established second-line treatment, particularly effective in spinal involvement while less commonly used in peripheral CRMO [1,2].

Due to a lack of large prospective randomized trials, the optimal timing and management of treatment in CRMO remains unclear.

Objectives:

This study aims to evaluate the effect of pamidronate treatment used early in the disease course compared to delayed therapy.

Methods:

A retrospective analysis of 83 patients treated with pamidronate at the DZKJR between 2016 and 2024 was conducted. Inclusion criteria included CRMO diagnosis according to Bristol criteria [3], no prior treatment beyond NSAID, no relevant comorbidities and two MRI studies.

Patients were divided into two groups:

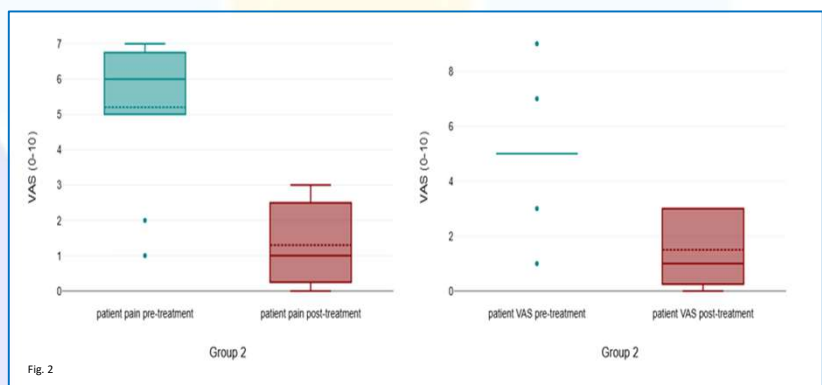
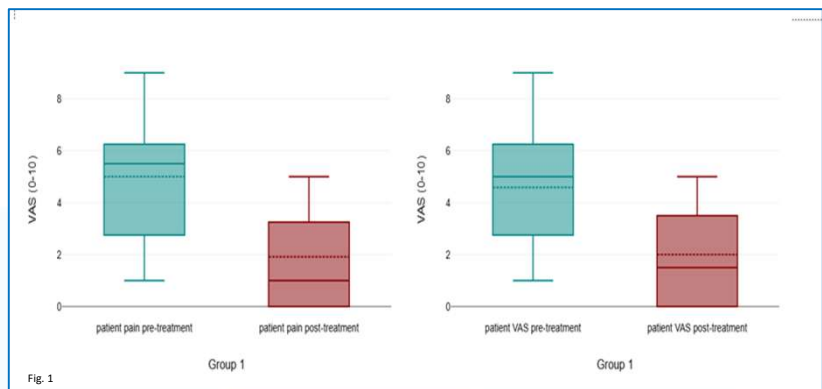
Group 1 (early treatment), where onset of symptoms, diagnosis, and treatment occurred within one year, and Group 2 (late treatment), where treatment was initiated after more than one year of symptoms.

Data collected was age, number of lesions and spinal involvement on MRI, number of pamidronate treatments, PedCNO scores, physician and patient global assessment, pain on VAS, prior to pamidronate and on first MRI after treatment. Demographic data was analyzed using descriptive statistics, repeated measures ANOVA and Student's T test.

Results:

22 patients were included with mean age of 10.9 years (range 5-15), 19 (86.4%) female. In Group 1, 11/12 patients had spinal involvement, compared to 4/10 in Group 2. Mean number of pamidronate cycles was 2.58 in Group 1 and 2.2 in Group 2. Prior to treatment, mean number of radiological lesions was 9 (IQR 5-10) in Group 1 and 7 (IQR 4-8) in Group 2, after treatment the number of lesions decreased to 8 in Group 1 and 4,8 in Group 2 ($F(1,40) = 0.08422$, $p = 0.7732$).

Significant improvements in physician global assessment (VAS, $p = 0.047$), patient global assessment (VAS, $p = 0.022$), and pain (VAS, $p = 0.002$) were observed in Group 1. In Group 2, pain ($p < 0.001$) and patient global ($p = 0.001$) improved significantly while physician global did not ($p = 0.138$). (Fig. 1, Fig. 2). PedCNO scores were calculated in 21/22 patients, with Group 1 reaching a PedCNO₅₀ and PedCNO₇₀ of 50% and 41%, and Group 2 40% and 30% respectively [4].



Conclusion:

- Pamidronate treatment led to significant improvements in both groups [3,5].
- Pamidronate treatment early in the disease course can be considered, even in patients without spinal involvement.
- Further prospective studies are needed to refine treatment protocols and evaluate long-term efficacy.

References

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