Pediatric Rheumatology

Poster presentation

Height and weight development following cyclical intravenous pamidronate in children and adolescents with chronic recurrent multifocal osteomyelitis (CRMO)

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This abstract is available from: http://www.ped-rheum.com/content/6/S1/P187

Objectives
Treatment with cyclical intravenous pamidronate (IVP) improves clinical course in children with chronic recurrent multifocal osteomyelitis (CRMO), but theoretically might affect longitudinal growth. In this study we analyzed growth during IVP treatment in ten CRMO patients.

Methods
10 patients (5 M, 5 F) were enrolled, with mean (range) age 11.4 (4.5–16.3) years at IVP treatment. All patients received a 3-day infusion of IVP (0.5 mg/kg/day for the first dose; 1 mg/kg/day subsequently), followed by 1-day infusion monthly or 3-day infusion every 3 months until resolution of MRI documented bone inflammation. Weight and height were measured prior to first IVP, at 1-year, and at final follow-up, and results were transformed into age- and gender-matched z-scores. Hotelling's test on the bivariate height and weight differences between 2 time points was performed.

Results
Patients received a mean (range) 6.23 (2.5–11.5) mg/kg/year of IVP to achieve resolution of MRI documented inflammation. Follow-up was a mean (range) 27.4 (16–46) months. At baseline, 4/10 children had low baseline height z-scores ($z < -1.0$), compared to 1/10 at final follow-up. At one year, height and weight z-scores jointly had increased significantly ($p = 0.014$). Univariate point estimates and 95% confidence intervals (95% CI) for average differences post-pre were height = 0.192, (95% CI-0.16, 0.54), and weight = 0.574, (95% CI 0.10, 1.04).

Conclusion
At 1-year following first pamidronate treatment, age-and gender-specific height and weight z-scores remained similar or increased, suggesting that 1. Pamidronate in pediatric CRMO does not have a detrimental effect on longitudinal growth

"Catch-up growth" can occur in this selected population.