



Effect of zoledronic acid on treatment of primary and secondary pediatric osteoporosis at Children hospital 1

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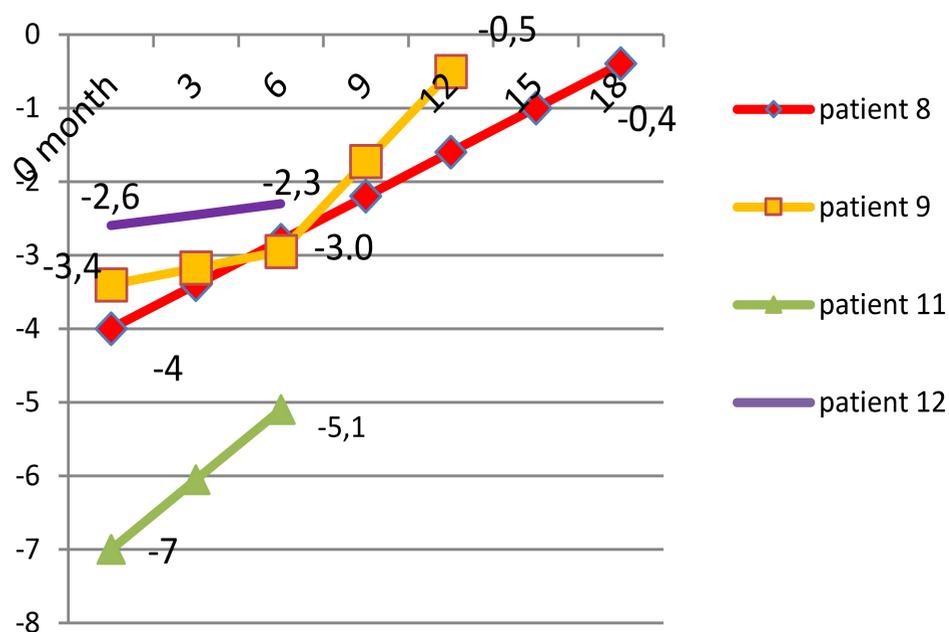
Back ground: Pediatric osteoporosis is a rare disease, which increases risk of fracture not only in childhood period but also reach adulthood. Treatment of bisphosphonates has been shown to be effective in improving adult bone mineral density (BMD) for more than 25 years, and has been used in pediatric treatment for about 15 years. Zoledronic acid (ZA), the latest generation bisphosphonate, has been used in osteoporosis treatment at Children's Hospital 1 since 2011. In this study, we aim to evaluate the effect and safety of ZA in treatment of primary and secondary osteoporosis in children

Objectives: to assess the effect & safety of ZA in improving BMD, height, clinical signs and the rate of fractures

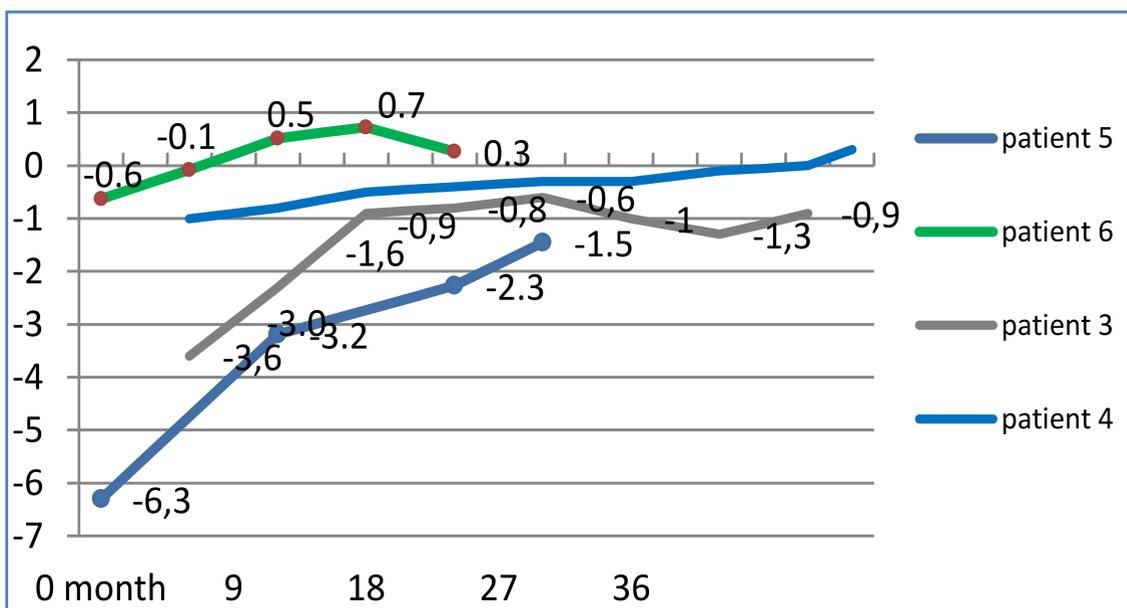
Method: case series of 13 children and adolescents diagnosed with osteoporosis at Children's Hospital 1. These patients was followed by checking BMD by Dual-energy X-ray absorptionmerty (DXA) before, during and after treating with ZA every 6-12 months.

Result: There was a significant improvement in BMD after treatment ZA with BMD Z-score before and after was -3.8 and -1.7, respectively (P= 0.03). There weren't any new fractures after treatment. About side effect of ZA, we haven't recorded any side effects during and after ZA infusion. Life quality has been improved significantly; most children no longer complained about bone pain, back pain or limited movement compared to before treatment. However, ZA hasn't show the clearly effect on height with height Z-score before and after treatment was -2.3 and -1.9, respectively (P= 0.89)

Lumbar BMD Z-score/ secondary osteoporosis



Lumbar BMD Z-score/ primary osteoporosis



Conclusion: Zoledronic acid appears to have some favorable effects in the treatment of primary and secondary osteoporosis in children and adolescents. Intravenous ZA improved BMD, life quality and protected bone from new fractures in both groups of pediatric osteoporosis

References:

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 Al-Agha AE, Shaikhain TA, Ashour AA, 2016, *Safety & Efficacy of Cyclic Zoledronic Acid Therapy on Pediatric Secondary Osteoporosis*