

Poster presentation

Treatment of the low bone mineral density with intravenous pamidronate in pediatric patients: review of a protocol of a single-day infusion twice a year

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Background

On the basis of effectiveness of bisphosphonates in adults, a simple protocol for the treatment of low bone mineral density in children was developed in 1995 in our centre. Objectives: To review the effectiveness of a single-day infusion of pamidronate twice a year in children. Secondary, to describe its efficacy in relation to the etiology of osteoporosis.

Materials and methods

Retrospective review of patients treated with pamidronate from January 1995 to June 2006 in Sant Joan de Déu hospital (Spain). Patients: younger than 18 years that underwent treatment with the protocol for at least one year and with z-score < -2.5, fractures and z-score < -1 or documented bone pain with z-score < -1. They were classified into 4 groups: osteogenesis imperfecta, chronic treatment with steroids, disuse and other conditions. Interventions: single intravenous administration of pamidronate (30 mg in prepubescent patients and 60 mg in all other patients) every six months. Clinical, radiological data and bone mineral density were obtained basal and after each cycle. For each patient the ratio fractures/year during the treatment and the total increase in z-score (total ΔZ) after the treatment were calculated.

Results

56 patients were included. Overall, fractures/year decreased from 1.75 basal to 0.46 during the treatment. Osteogenesis imperfecta group had better total ΔZ (1.25).

Disuse group had clinical improvement although poor total ΔZ increase (0.12).

Conclusion

There is a clinical improvement in all patients. The OI group has the best gain in bone mineral mass. The protocol is safe, simple and well tolerated by patients and families.