

Poster presentation

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## Treatment of osteogenesis imperfecta with intravenous pamidronate in pediatric patients: comparison between a single-day infusion twice a year protocol with other regimens described in the literature

S Ricart\*, J Anton, M del Rio and J Ros

Address: Hospital Sant Joan de Deu, University of Barcelona, Barcelona, Spain

\* Corresponding author

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### Background

In 1995 our institution developed a protocol to treat children with pamidronate. Several protocols have been published to treat osteogenesis imperfecta (OI) in the last decades. Objectives: to review the usefulness of our protocol in OI and to compare it with published protocols.

### Materials and methods

Retrospective review of OI patients treated with pamidronate from 1995 to 2006 in our centre. Inclusion criteria: OI < 18 years with z-score < -2.5, fractures and z < -1 or documented bone pain with z < -1. Treatment: 60 mg or 30 mg (in prepubescents) of pamidronate every six months in a single dose.

### Results

20 patients included, average length of treatment 4.1 years (range: 18 months – 8 years). Average Z-score increased from -4.3 to -2.9 after treatment and fracture rate decreased. Table 1 shows the comparison between our protocol and the ones published by Glorieux [1] and Arikoski [2].

### Conclusion

Despite a lower increase in z-score in our serie, the clinical efficacy is similar to other protocols. There is a tendency towards greater gain in Z-score as the annual dosage increases.

### References

1. Glorieux FH, et al.: **Cyclic administration of pamidronate in children with severe osteogenesis imperfecta.** *The New England Journal of Medicine* 1998, **339**:947-52.
2. Arikoski P, et al.: **Intravenous pamidronate treatment in children with moderate to severe osteogenesis imperfecta: assessment of indices of dual-energy X-ray absorptiometry and bone metabolic markers during the first year of therapy.** *Bone* 2004, **34**:539-46.

**Table 1: Comparison between our protocol and the ones published by Glorieux and Arikoski**

	HSJD	Glorieux [1]	Arikoski [2]
Patients	20	30	12
Dose (mg/Kg/year)	2.4(0.3)	6.8(1.1)	12
Periodicity of infusions (m)	6	3-4	3
Basal z-score	-4.3(2)	-5.3(1.2)	*
Final z-score	-3.38(2.4) **	-3.4(1.5)	*
Years of treatment	3**	2.1(range 1.3-5)	1
Mean annual increase in: z-score BMD	0.49 (0.1) 21.1 (5.1)	0.95 41.9 (29)	* 63.5(37.3)

Mean(SD). m: months. \*Data not available. \*\* For comparability with the other series only the results of the first 3 years are shown.

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