

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

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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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