

## BONE

## Promising combination therapy for children with osteogenesis imperfecta

Bisphosphonates represent the standard of care for children with osteogenesis imperfecta (OI). However, researchers from Italy now report that the addition of recombinant human growth hormone (rhGH) to ongoing treatment with neridronate can increase measures of BMD and growth above what typically occurs with neridronate alone.

Previous studies had found that administration of rhGH mediated anabolic effects on bone in the setting of OI. Antoniazzi and colleagues, therefore, decided to investigate whether the effects of combined rhGH and bisphosphonate therapy exceeded those of standard bisphosphonate monotherapy.

The investigators enrolled 30 prepubescent children with mild to moderate OI. Following a 12-month period of neridronate therapy (the only bisphosphonate currently approved in Italy for OI), the children were randomly

allocated to receive rhGH plus neridronate or to continue with neridronate therapy for an additional 12 months.

When compared to neridronate alone, combination therapy produced marked improvements in BMD (lumbar spine and wrist) and growth velocity. However, no change was observed in the fracture rate.

On the basis of their findings, Antoniazzi *et al.* suggest that combined treatment with rhGH and a bisphosphonate could benefit young children with OI. However, the team sounds a final note of caution. “Until the efficacy and safety of these drugs have been confirmed in larger long-term studies, the use of rhGH in patients with OI can only be recommended within clinical trials.”

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**Original article** Antoniazzi, F. *et al.* Growth hormone in combination with bisphosphonate treatment in osteogenesis imperfecta. *Eur. J. Endocrinol.* **163**, 479–487 (2010)