primary studies - published RCT

Effect of intravenous pamidronate on bone mineral density in adults with cystic fibrosis.

Code: PM11254825 **Year:** 2001 **Date:** 2001 **Author:** Haworth CS

Study design (if review, criteria of inclusion for studies)

Randomised controlled trial; parallel design.

Participants

Inclusion criteria: CF; no organ transplantation; 70% of all eligible participants in a longitudinal BMD study recruited after one year of follow-up; no prior treatment with bone sparing agents; BMD Z-score of

Interventions

All participants with pancreatic insufficiency (relevant to all except one in control group) continued long term oral vitamin D (900 IU/day); all participants in both groups received oral calcium (1g daily). Intravenous pamidronate 30 mg every 3 months for 6 months (2 doses).

Outcome measures

BMD (distal radius, ultradistal radius; 0, 6 months; SXA); Adverse events (bone pain); Withdrawals (total, due to adverse events); BMD (lumbar spine; proximal femur (total hip); 0, 6 months; DXA Hologic QDR 4500 Waltham MA); Survival.

Main results

Trial duration planned for 1 year, but was shortened to 6 months because of adverse events. After 6 months of treatment the pamidronate group (n=13) showed a significant increase in absolute BMD compared with the control group (n=15) in the lumbar spine (mean difference 5.8% (CI 2.7% to 8.9%)) and total hip (mean difference 3.0% (CI 0.3% to 5.6%)). However, the pamidronate group showed a reduction in BMD compared with the control group in the distal forearm (mean difference -1.7% (CI -3.7% to 0.3%)). The use of pamidronate was associated with a high incidence of bone pain in non-corticosteroid treated individuals.

Authors' conclusions

Intravenous pamidronate increases axial BMD in adults with cystic fibrosis, but the high incidence of bone pain associated with this treatment might limit its use.

http://dx.doi.org/10.1136/thorax.56.4.314

See also

Thorax. 2001 Apr;56(4):314-6.

Keywords

Adolescent; Adult; Bisphosphonates; Bone Density Conservation Agents; Bone Diseases; Intravenous; pamidronate; pharmacological_intervention; Oral;