

OSTEOPOROSIS IN PEDIATRIC LONG-TERM CARE: II

Audrius V. Pliophys, Irene Kasnicka, Lynnette Torres, Shelley Lewis, Pamela Murphy, Chicago, Illinois

Introduction Bone fractures are common in children with quadriplegic cerebral palsy. The degree of disuse osteoporosis in this population was reported for the first time at last year's AMDA meeting. This report extends our observations from 15 cases to 30.

Methods 30 individuals who had a fracture were identified (age range: 9-46 y; mean 21 y; 11 females, 19 males). All had severe quadriplegic cerebral palsy and were wheelchair bound. 25 were fed by gastrostomy tube. 5 had a tracheostomy. All were receiving adequate amounts of calcium and vitamin D and the serum calcium and vitamin D levels were normal. 8 were treated with valproic acid for epilepsy. None had received any steroid treatments. All underwent bone mineral density (BMD) determinations using a Hologic QDR-1000 X-ray Bone Densitometer (DXA). The results are reported in T-scores (1T=1 standard deviation). A T-score result of ≤ -2.5 defines osteoporosis.

Results BMD in the total hip was determined in 20 cases. The T-score range was -1.76 to -4.08 with a mean of -3.49. 16 of the 20 T-scores were below -2.5.

BMD in the lumbar spine was determined in 24 cases. The T-score range was -2.41 to -6.43, with a mean of -4.13. 22 of the 24 T-scores were below -2.5.

There was a significant correlation between BMD determinations in the hip and lumbar spine. There was no significant correlation in BMD results with valproic acid intake.

Conclusion These results indicate a severe degree of osteoporosis in this population. There was no correlation between the degree of osteoporosis and use of valproic acid. Client handling techniques must be modified and osteoporosis treatment approaches need to be investigated.

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