

Corticosteroid-induced osteoporosis in children: Outcome after two-year follow-up, risk factors, densitometric predictive cut-off values for vertebral fractures

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Objectives: To identify factors that contribute to a decreased Z score of volumetric spine bone mineral density (ZvSBMD) and the development of vertebral fractures (VF) in children receiving chronic systemic corticosteroid therapy (SCT); to describe their outcome after 2 years, and to define predictive threshold values for ZvSBMD for VF. **Methods:** Fifty-five children on SCT for ≥ 6 months were prospectively followed for 2 years. In children with a ZvSBMD > -1.5 , we prescribed preventive measures for osteoporosis and densitometry annually. In children with ZvSBMD ≤ -1.5 , we prescribed spine x-rays and those with VF received alendronate. The association between clinical and biochemical variables and the presence of VF or ZvSBMD were analyzed by logistic regression or multiple regression analysis. The threshold value of ZvSBMD for predicting VF was determined by ROC curve and the probability of having a VF was modeled by multiple logistic regressions. **Results:** Children who do not develop o