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Evaluation of sclerostin serum level and bone density status in children on regular haemodialysis

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Bone disease is frequently observed in chronic kidney disease (CKD) and increases a patient's risk for fracture. Sclerostin is an osteocyte-derived negative regulator of bone formation. Aim of this study is to assess sclerostin serum level as a bone marker in children with CKD on regular hemodialysis and detect the association between sclerostin serum level and bone density status. The study conducted on 25 children with CKD on regular HD and 25 age- and sex-matched healthy children as controls, complete blood picture, BUN, serum creatinine, parathyroid hormone, alkaline phosphatase, calcium, phosphorous and sclerostin serum level, also DEXA scan were measured in both groups. There was significant increase in sclerostin serum level in patients compared to controls with nine patients (36%) have low bone mineral density (BMD) with z score under -2.0, 8 of them have low BMD in both the neck of femur and lumber spines and one of the patients only have low BMD in the lumber spines. There is significant increase in sclerostin serum level in patients group with low BMD compared with patients with normal bone density. There is significant positive correlation between sclerostin serum level and (ALK phosphatase, PTH) while there is significant negative correlation and serum Ca. Sclerostin is 100% specific and sensitive as a marker of bone disease in children of regular hemodialysis. Elevated sclerostin levels are consistent with low bone density and appear to be independent predictor of reduced bone mineral density in CKD children on regular hemodialysis.

Biography

Manal Abd Elsalam completed her MBBCh and, then Residency of Pediatrics at AL-Azhar University, Cairo, Egypt. She is an Assistant Professor of Pediatrics at Al-Azhar University, Cairo, Egypt.

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