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Metabolic bone disease in the preterm infant: Current state and future directions

Moghis Ur Rehman, Hassib Narchi

Abstract

Neonatal osteopenia is an important area of interest for neonatologists due to continuing increased survival of preterm infants. It can occur in high-risk infants such as preterm infants, infants on long-term diuretics or corticosteroids, and those with neuromuscular disorders. Complications such as rickets, pathological fractures, impaired respiratory function and poor growth in childhood can develop and may be the first clinical evidence of the condition. It is important for neonatologists managing such high-risk patients to regularly monitor biochemical markers for evidence of abnormal bone turnover and inadequate mineral intake in order to detect the early phases of impaired bone mineralization. Dual-energy X-ray absorptiometry (DEXA) has become an increasingly used research tool for assessing BMD in children and neonates, but more studies are still needed before it can be used a useful clinical tool. Prevention and early detection of osteopenia are key to the successful management of this condition and oral phosphate supplements should be started as soon as is feasible.

Key words: Premature; Osteopenia; Bone metabolism; Calcium; Alkaline Phosphatase; Phosphorus; Nutrition

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