

PREVALENCE OF BONE DISEASE IN CHILDREN AND ADOLESCENTS WITH SICKLE CELL ANEMIA: SINGLE INSTITUTE EXPERIENCE IN KINGDOM OF SAUDI ARABIA

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Background. Bone disease is an increasingly recognized serious cause of morbidity on young adults with hemoglobinopathies disorders. Sickle cell anemia (SCA) is a prevalent genetic disorder in Saudi Arabia. Sickler hemoglobin leads to tissue hypoxia and adverse effect on bone, sickler has multiple bone problems include, bone pain participate vaso-occlusive crises, osteomalacia, osteopenia, spinal deformations, fractures, severe osteoporosis and a vascular necrosis. Aims. To assess the prevalence of bone disease among children with sickle cell anemia at our institute. Methods. Two hundred three (203) SCA patients were enrolled in the study, age ranges from 1-18 years old. (98 females & 105 males). These patient were treated and followed at King Abdulaziz University Hospital (KAUH), Jeddah Kingdom of Saudi Arabia (KSA). All patients were assessed clinically. Blood and urine samples were obtained for the determination of biochemical and hormonal profiles, included , PTH, 25 OH vitamin D3. Bone maturation was assessed by radiological bone age. Bone mineral density (BMD) by DEXA was determined on half of the adolescent patients. Bone formation markers (bone-specific alkaline phosphatase and osteocalcin) and bone resorption markers (Pyridinoline and deoxy pyridinoline) were analysed for patients whom had BMD and referred for treatment. Results. High prevalence of hypovitaminosis D, 25% in sickle cell children patients, 55% among adolescents. High prevalence of reduced low bone mass (LBM) among adolescents whom screened. Summary. Bone assessment was found to be suboptimal in children and adolescents in our institute. All sickles should be screened annually for bone disease. Calcium and vitamin D deficiencies may further compound the patients risk for bone disease. Early diagnosis and treatment can prevent a bone complications. References 1. S. Al Jaouni, The pattern of bone disease and its morbidity among thalassemia treated at single institute in Saudi Arabia. HAEMATOLOGICAL / The Hematology Journal 2007; 2:428-9. 2. R.G. Miller, JB Segal, BH. Ashar, S. Leung, S. Ahmed, S. Siddique, High Prevalence and Correlates of Low Bone mineral density in young adults with Sickle Cell disease, American Journal of Hematology 2006;81:236-241. 3. Almida A, Roberts I. Bone involvement in Sickle Cell Disease. Br J Haematol 2005;129;482-90.