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PREVALENCE OF LOW BONE MINERAL DENSITY IN YOUNG ADULTS WITH SICKLE CELL ANAEMIA

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Introduction. Sickle cell anaemia (SCA) is a prevalent genetic blood disorder in Bahrain in which sickle hemoglobin leads to tissue hypoxia and adverse effects on bone. The number of patients and carriers in Bahrain are greater than 15%. Osteopenia-dependent vertebral fractures is one of the most serious complications of the disease that affect the quality and duration of life in those patients with SCA. Published studies suggest that children with SCA often have undiagnosed osteopenia or osteoporosis. Minimal data exist on the prevalence of low bone mineral density (BMD) in adults. Our objective was to describe the prevalence of osteopenia and osteoporosis in adults with SCA and to identify patient or disease characteristics associated with low BMD.

Material and methods. 28 patients (16 men and 12 women) with SCA were examined. The average age was 31 years old. Dual-energy X-ray absorptiometry (DEXA) and clinical investigations were performed in all patients. Our main outcome measure was prevalence of osteopenia and osteoporosis as defined by WHO criteria.

Results. 12 (75%) men and 8 (67%) women had low BMD. Based on the Z-score, 11 patients were diagnosed osteoporosis, 9 patients were diagnosed with osteopenia The frequency of osteopenic syndrome was independent of socio-economic status of the patients. Osteopenic syndrome was manifested by changes in the trabecular bone structure (trabecular arhitecture) and with reduction of bone mineral density. The clinical picture of osteoporosis in patients with SCA manifested with ostealgia. Frequency of ostealgia in those patients is relatively high (40%) compared with the classic course of primary osteopenic syndrome.

Conclusion. The prevalence of osteopenia and osteoporosis in young adults with SCA is extremely high. The Frequency of osteopenic syndrome in men is much higher than women. Ostealgia dominated symptom in the clinical picture of the disease. Further research is needed to address fracture risk and therapeutic interventions.