and phosphate levels, 25-hydroxyvitamin(OH)D level, and bone turnover markers serum P1NP and serum CTX as bone formation and bone resorption markers respectively. Vitamin D deficiency was defined as 25-hydroxyvitamin D of less than 75 nmol/L. Vitamin D inadequacy was a combination of vitamin D deficiency and insufficiency.

RESULTS

The study population included 47.5% female and 52.5% male subjects with a mean age of 27.5 ± 5.2 years. Almost all (95%) had elevated serum ferritin (>1000 ug/l) and various endocrinopathies. Increased BTM was detected in 27.5% of patients (n = 11). A high prevalence of vitamin D inadequacy (95%) was observed, with vitamin D insufficiency of 32.5% and deficiency of 62.5%, correlating with ferritin levels (r = -0.444, p = 0.005) and serum P1NP (r = -0.364, p = 0.024). A majority (72.5%) had inadequate sun exposure, particularly among the females (p = 0.021) and Malays (p = 0.003). There was no significant correlation between SI and vitamin D status (r = 0.037, p = 0.824) or BTM.

CONCLUSION

This study revealed a high prevalence of vitamin D inadequacy among adult transfusion-dependent thalassemia patients and low sun exposure among females and Malays. Vitamin D inadequacy was associated with high ferritin and bone formation markers reflecting increased bone remodeling which can lead to higher fracture risk due to bone fragility. Hence, it is important to recognize and treat vitamin D deficiency early in these patients to prevent its deleterious effects on bone health.

KEYWORDS

bone disease, thalassemia, bone turnover markers, vitamin D, sun exposure

PP-B-12

A CASE OF MALABSORPTION PRESENTING WITH OSTEOMALACIA, COAGULOPATHY AND DELAYED PUBERTY

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CASE

A 26-year-old Filipino female presented initially with hematochezia. At the age of 2, following blunt abdominal trauma, the patient underwent intestinal bypass surgery (gastrojejunostomy). Thereafter, she experienced recurrent abdominal pain and diarrhea, with poor weight gain and short stature. Later, she would report delayed puberty (breast budding at 16; menarche at 18). She also reported bone and joint pain coupled with facial and extremity paresthesias, with X-rays revealing signs of osteopenia. Development of hematochezia resulting in severe anemia, in association with recurring gastrointestinal symptoms, prompted admission. Workup revealed elevations in prothrombin time, which improved following Vitamin K administration. GI endoscopy revealed no structural lesions. Skeletal X-rays revealed generalized decreases in mineralization, with lateral views showing concaving fish-mouth deformities in the L1 to L5 vertebral bodies. Vitamin D levels were found to be deficient; this improved only following large doses of daily Vitamin D3 administration. Hormonal studies revealed hypogonadotropic hypogonadotropism, likely stemming from malnutrition.

KEYWORDS

osteomalcia, coagulopathy, vitamin D, delayed puberty

PP-B-13

NAVIGATING THE DIAGNOSTIC CHALLENGES OF CALCIPENIC RICKETS COMPLICATED BY HYPERCOAGULATION, HYPOKALEMIA, AND SECONDARY AMENORRHEA IN A 21-YEAR-OLD FEMALE

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CASE

Rickets, a metabolic bone disorder primarily attributed to insufficient mineralization of the epiphyseal plate or osteoid calcification failure due to vitamin D or calcium deficiency, encompasses a spectrum of etiological factors including genetic anomalies and drug-induced manifestations. This report details a case of calcipenic rickets in a 21-year-old Indonesian female who presented with growth retardation and leg deformities since age 13. Extensive evaluation revealed hypocalcemia, hyperparathyroidism, elevated alkaline phosphatase, reduced phosphate levels, and decreased vitamin 25(OH)D concentrations. Alongside calcipenic rickets, the patient exhibited hypercoagulability, hypokalemia, and secondary amenorrhea. Treatment comprised Vitamin D supplementation (5000 IU) and calcium supplementation. Early diagnosis, guided by history, physical examination, and laboratory and radiological assessments, is essential. The profound impact of rickets on stature and bone structure underscores the urgency of timely diagnosis and appropriate intervention to ensure optimal outcomes for affected individuals.

KEYWORDS

rickets, vitamin D, diagnosis