METHODOLOGY
All patients with 25-hydroxyvitaminD levels done at the Hospital Sultan Haji Ahmad Shah, Temerloh in 2023 were included. Patient demographic data, clinical profile, 25-hydroxyvitamin D and vitamin D deficiency management were assessed through electronic medical records.

RESULTS
A total of 126 samples of 25-hydroxyvitamin D were done in 2023 for 100 patients. Majority were paediatric patients (65%) and the rest were adult patients (35%). Mean 25-hydroxyvitamin D levels for adult and paediatric patients were 44.5 nmol/L and 99.8 nmol/L respectively. Most of the investigations were for screening of 25-hydroxyvitamin D status (68.6%) while 21.4% were for monitoring of 25-hydroxyvitamin D levels for patients who are already undergoing vitamin D treatment.

Common indications for 25-hydroxyvitamin D in paediatric patients included renal disease (24.6%), prematurity (16.9%), hypocalcaemia (9.2%) and high ALP (7.6%). In adult patients, common indications included renal disease (20%), hypocalcaemia (11.4%), hypercalcemia (7.6%) and osteoporosis (7.6%).

Vitamin D deficiency was present in 43.1% (n = 28) of paediatric patients and 54.3% (n = 19) of adult patients. Among paediatric patients with vitamin D deficiency, 67.9% (n = 19) were treated with inactivated vitamin D while 25% (n = 7) did not receive any treatment. Among adult patients with vitamin D deficiency, 15.7% (n = 3) were treated with inactivated vitamin D and 42.1% (n = 8) did not receive any treatment.

CONCLUSION
There was a huge discrepancy in the number of 25-hydroxyvitamin D samples sent in adult and paediatric patients, which may indicate lower awareness of vitamin D screening among adult patients. The high proportion of adult patients with vitamin D deficiency who are not optimally managed with vitamin D supplementation reflect the need to standardize and monitor vitamin D treatment in the hospital.

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TRANSIENT OSTEOPOROSIS SECONDARY TO TENOFOVIR

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INTRODUCTION/BACKGROUND
Tenofovir is the first-line antiviral therapy for chronic hepatitis B, however, long-term use may induce osteoporosis. This is a case of a patient who developed transient osteoporosis after chronic use of tenofovir.

CASE
A 57-year-old male with chronic Hepatitis B on tenofovir, presented with a 2-year history of progressive limb weakness, myalgia, and weight loss of 6 kg. He sustained a low impact fracture of his left ankle 2014 and incidentally noted a right pelvic fracture through an MRI of the pelvis in 2017. His blood parameters were normal including serum calcium, phosphate, vitamin D and parathyroid hormone levels. First BMD examination in 2018 showed severe osteoporosis with a T-score of – 4.9 and -4.7 for the distal one-third of the left forearm and spine respectively. Serial BMD examination one year later, showed the persistence of severe osteoporosis with a T-score of -3.4, -3.3 at the hip and spine respectively. Moreover, there was a worsening of T-score to -6.0 at the distal one-third of the forearm. He was then initiated on oral bisphosphonate. Additional proximal myopathy workup including FDG-PET scan, CECT Thorax, abdomen and pelvis and muscle biopsy were all normal. EMG showed diffuse neurogenic with secondary myogenic changes, suggestive of a metabolic aetiology. Thus, tenofovir was switched to entecavir and lamivudine after all other metabolic causes were ruled out. Osteoporosis treatment with oral bisphosphonate and vitamin D supplements was continued. The latest BMD examination in 2024 showed a markedly improved T-score and resolution of his osteoporosis.

CONCLUSION
Tenofovir may lead to osteoporosis development through directly altering osteoclasts and/or osteoblasts activity. Furthermore, literature showed it can also affect the proximal renal tubules and vitamin D metabolism. Hence, close monitoring of tenofovir plasma concentrations coupled with renal and bone function is essential. Early detection, diagnosis, and treatment of osteoporosis induced by these drugs should be emphasized.