PP-B-14

THE PREVALENCE OF VITAMIN D DEFICIENCY IN PATIENTS WITH NON-ALCOHOLIC FATTY LIVER DISEASE AND T2DM

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INTRODUCTION
Vitamin D has been shown to have anti-inflammatory effects and its deficiency is associated with increased risk of type 2 diabetes mellitus (T2DM), and non-alcoholic fatty liver disease (NAFLD). Vitamin D deficiency is prevalent in patients with T2DM and NAFLD.

METHODOLOGY
This study aimed to determine the prevalence of vitamin D deficiency in patients with both T2DM and NAFLD. We conducted a cross-sectional study in adult patients with T2DM, and they were divided into 2 groups: patients with T2DM and NAFLD (n = 86) and patients with T2DM without NAFLD (n=24). The definition of NAFLD was based on the presence of liver steatosis via ultrasound abdomen. Serum total 25-hydroxy-D3 (vitamin D) level was analysed using electrochemiluminescence immunoassay and defined as deficient if the level was <50 nmol/L. The sample size calculated was 47 patients per group.

RESULTS
The prevalence of vitamin deficiency in the overall population was 48.2% (53/110). There was a numerically higher prevalence of vitamin D deficiency in patients with T2DM and NAFLD compared to those without NAFLD (52.3% (45/86) vs 33.3% (8/24), p=0.1). The mean serum vitamin D levels of patients with T2DM and NAFLD were statistically lower than those without NAFLD (51.53 ± 19.68 vs 60.61 ± 20.25; p <0.05). These differences were seen despite no significant difference in age, diabetes duration, insulin dose, BMI, weight circumference, HbA1c, LDL-c, HDL-c, triglycerides, and interleukin-6 levels between the NAFLD and no NAFLD group.

CONCLUSION
This study demonstrated a high prevalence of vitamin D deficiency in patients with T2DM and NAFLD. Patients with T2DM and NAFLD have lower vitamin D level as compared to those with T2DM alone.

KEYWORDS
vitamin D deficiency, type 2 diabetes mellitus, non-alcoholic fatty liver disease, insulin, ultrasound

PP-B-15

CASE SERIES OF PRIMARY HYPERPARATHYROIDISM: FROM ASYMPTOMATIC TO FATAL COMPLICATION

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CASE
Primary hyperparathyroidism is a disorder of the parathyroid glands that causes excessive secretion of parathyroid hormones. The presentation spectrum of PHPT is wide, from asymptomatic to symptomatic. We present four cases of primary hyperparathyroidism (Case 1: 45-year-old female, Case 2: 18-year-old male, Case 3: 36-year-old female, and Case 4: 27-year-old male. All patients were Indonesian), with asymptomatic presentation only in Case I, the rests were symptomatic. Parathyroidectomy was performed in all patients, with the histopathological results of parathyroid adenoma (Cases 1 and 2) and parathyroid carcinoma (Cases 3 and 4). There were hungry bone syndrome complications in both parathyroid carcinoma patients, and one of the patients did not survive due to cardiac arrhythmia. We compare the differences of clinical presentation, biochemical findings, imaging, and the outcomes of all patients, to learn how to treat primary hyperparathyroidism with different presentations.

KEYWORDS
primary hyperparathyroidism, parathyroid adenoma, parathyroid carcinoma, hungry bone syndrome

PP-B-16

UNDERDIAGNOSED CLASSICAL PRIMARY HYPERPARATHYROIDISM AND RAPID PROGRESSIVE DEMENTIA: CASE REPORT AND LITERATURE REVIEW

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CASE
A 76-year-old female presented with forgetfulness and disorganized behavior 3 months prior to admission. She had hypertension and also had postmenopausal osteoporosis which was treated with oral alendronate plus vitamin D for 7 months. After complete metabolic panels, laboratory results revealed unexpected serum calcium

15.0 mg/dL, ionized calcium 8 mmol/L, phosphorus 2.77 mg/dL, intact parathyroid hormone 415 pg/mL, 25 (OH) D 55.3 ng/mL, ALP 145 U/L, and eGFR 33.3 mL/min. On physical examination, all were unremarkable except for mild dehydration. Her Thai mini-mental state examination score (TMSE) was 11/30 which was compatible with mild cognitive impairment. After saline infusion, her TMSE score improved, and serum calcium gradually decreased to less than 12.0 mg/dL. A Sestamibi scan revealed a single parathyroid adenoma. Alendronate was continued due to the very high risk of osteoporotic fracture. In this case, we demonstrated a PHPT patient who presented with rapid progressive dementia which was one of the neuropsychiatric manifestations, similarly shown in other series.

KEYWORDS
rapid progressive dementia, primary hyperparathyroidism

PP-B-17

EVALUATING PRESCRIBING PATTERN, OUTCOMES AND TACHYPHYLAXIS PREVALENCE OF INJECTABLE CALCITONIN IN HYPERCALCEMIA

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INTRODUCTION
Despite recommendations advocating to limit calcitonin use to 48 to 72 hours, the true occurrence of tachyphylaxis in the population and the extent of its impact on serum calcium levels is not known. This current study aimed to evaluate prescribing patterns, outcomes, and tachyphylaxis prevalence of injectable calcitonin in hypercalcemia.

METHODOLOGY
A retrospective observational study of hospitalised patients' medical records was conducted in three government tertiary hospitals in Malaysia. Included patients were adults aged ≥18 years old, diagnosed with all-cause hypercalcemia, and treated with injectable calcitonin from 1st January 2020 to 31st December 2022. Those patients on calcitonin ≥48 hours with at least one serum calcium at 48 hours were included and analysed for calcitonin prescribing pattern, changes in serum calcium, the prevalence of tachyphylaxis and factors associated with calcium reduction.

RESULTS
A total of 64 patients on calcitonin were recruited, calcitonin monotherapy (n=53) and combination therapy with calcitonin and bisphosphonate (n = 11). The reduction in corrected serum calcium at 48 hours after treatment initiation was greater in combination therapy 0.76 mmol/L (IQR 0.98) versus 0.26 mmol/L (IQR 0.43, p = 0.022) in monotherapy. Tachyphylaxis was observed in 32.1% and 27.3% of patients with calcitonin monotherapy and combination therapy respectively (p >0.05). Pre-corrected serum calcium was significantly associated with calcium reduction at 48 hours after treatment initiation (AOR:0.62, 95% CI: 37.83, 70.94, p <0.001). Trends showed that monotherapy did not reduce serum calcium at 48 hours after treatment initiation as much as the combination therapy group, but the difference was non-significant (p = 0.064).

CONCLUSION
The overall prevalence of tachyphylaxis associated with calcitonin in this study was 31.2% at 48 hours. The study findings suggest that it is important to initiate calcitonin in combination with bisphosphonate at a weight-based dose of ≥4 IU/kg/dose and constantly adjust the dose according to clinical response.

KEYWORDS
calcitonin, tachyphylaxis, hypercalcemia, bisphosphonate