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THE EFFECTS OF DRY INTERMITTENT FASTING ON OVERWEIGHT AND OBESITY: PROTOCOL FOR A NON-RANDOMIZED CONTROLLED TRIAL

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INTRODUCTION

In line with the increasing trend of overweight and obesity prevalence worldwide, stakeholders have been strengthening the efforts to promote obesity prevention programs. Although wet intermittent fasting has been proven effective in reducing weight and is widely practised nowadays, the effectiveness of two-days per week dry fasting is still unclear. The Cardiometabolic and Anthropometric Outcomes of Intermittent Fasting (CAIFA) study aimed to determine the cardiometabolic, anthropometric, dietary and quality of life changes among overweight and obese civil servants following combined intermittent fasting and healthy plate (IFHP) and healthy plate (HP) alone. This study also explored the participants' experience with both methods.

METHODOLOGY

The CAIFA study is a mixed-method quasi-experimental study examining the effectiveness of IFHP and HP methods among overweight and obese adults. A total of 177 participants participated in this study, of which 91 were allocated in the IFHP group and 86 in the HP group. The intervention involve two phases: a supervised phase (12 weeks) and an unsupervised phase (12 weeks). The data collection was conducted during baseline visit, after the supervised phase, and at the end of the unsupervised phase. Data on socio-demographics, quality of life, physical activity and dietary intake were also obtained. Serum and whole blood were collected from each participant for analysis.

RESULTS

Most of the participants were females (n=147, 83.7%) and Malays (n=141, 79.6%). The outcomes included in this study were changes in body weight, body composition, quality of life, physical activity, dietary intake and cardiometabolic parameters such as fasting blood glucose, 2-hour postprandial blood glucose, HbA1c, fasting insulin and lipid profile.

CONCLUSION

We established a mixed-method study to assess the effectiveness of combined IFHP and HP interventions on cardiometabolic and anthropometric parameters and to explore participants' experience throughout the study

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GRAVES' DISEASE COMPLICATED WITH THYROID STORM AND SEVERE CHOLESTASIS

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INTRODUCTION

A multifaceted relationship exists between the thyroid gland and the liver, which is crucial for maintaining homeostasis. Therefore, it is common to identify liver dysfunction in patients with thyroid disease. Although cholestasis can be associated with thyroid storm, it is important to ascertain the etiology as other conditions such as drug-induced cholestasis, autoimmune liver disease and sepsis-related hepatic dysfunction warrant specific management.

CASE

We report a case of severe cholestasis in a patient presenting with thyroid storm secondary to Graves' disease in whom heart failure and other secondary causes were appropriately investigated. We also present other relevant reports and studies available in the literature.

A 39-year-old female presented with jaundice, symptoms of thyrotoxicosis and heart failure. Clinically, she had exophthalmos with a moderately enlarged thyroid and signs of heart failure. Burch-Wartofsky Point Scale was 70. Her thyroid-stimulating hormone level was suppressed at 0.02 mU/L, with high free thyroxine of 92.4 pmol/L and free triiodothyronine of more than 30.8 pmol/L. She also had hyperbilirubinaemia which was predominantly conjugated, mildly elevated aspartate transaminase (AST) of 86 IU/L and normal alanine transaminase (ALT) level of 34 IU/L. Blood parameters were prolonged with activated partial thromboplastin time (APTT) of more than 180 seconds and international normalized ratio (INR) of 2.14. She was commenced on Lugol's iodine, corticosteroids and propranolol for thyroid storm, ursodeoxycholic acid for cholestasis and furosemide along with spironolactone for heart failure. She improved gradually and was discharged after a month of hospitalization.

CONCLUSION

Severe cholestasis in patients with thyrotoxicosis is a common presentation and may dominate the clinical picture of the primary disease. The recognition of liver and cardiac complications of thyrotoxicosis together with a thorough evaluation for other etiologies will allow proper management and hence, steady improvement of this serious medical condition.

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SEVERE ACUTE RESPIRATORY SYNDROME CORONAVIRUS 2 (SARS-CoV-2) VACCINE-INDUCED THYROID DYSFUNCTION: A TALE OF TWO PATIENTS

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INTRODUCTION

SARS-CoV-2 vaccine has been the main pillar in battling the coronavirus disease 2019 (COVID-19) pandemic. However, the current vast scale of SARS-CoV-2 vaccination programme has led to inevitable reports of various adverse reactions, one of which include thyroid dysfunction.

CASES

We describe two patients who manifested hyperthyroidism following BNT162b2 mRNA-based COVID-19 vaccine boosters.

Patient 1, a previously euthyroid 46-year-old female, has an eight-year history of type 1 diabetes mellitus. She developed palpitations of increasing severity about two weeks after her COVID-19 booster vaccine on 20th January 2022. She had weight loss of 4 kg and experienced menstrual irregularities in the subsequent three months. Examination revealed tachycardia (112 beats per minute, regular) and bilateral fine tremors of the hands. There was no goitre or neck tenderness. Blood investigations showed overt hyperthyroidism with positive thyroid autoantibodies, consistent with Graves' disease. Treatment with carbimazole led to marked symptomatic improvement. Patient 2, a 38-year-old female with a six-year history of Hashimoto thyroiditis, was clinically and biochemically euthyroid while taking levothyroxine 100 mcg daily prior to her COVID-19 booster vaccine on 5th January 2022. Five weeks following the vaccine, her thyroid function test during her endocrine clinic appointment showed overt hyperthyroidism, which was confirmed by a second blood sample ten days later. There was neither a change in levothyroxine dose nor any additional supplement intake. She was otherwise asymptomatic. Levothyroxine was then withheld. She regained her baseline hypothyroid state two weeks later, during which levothyroxine was resumed.

CONCLUSION

SARS-CoV-2 vaccine-induced thyroid dysfunction can affect both euthyroid and hypothyroid patients. A history of recent COVID-19 vaccination should be included in the clinical evaluation of a newly diagnosed hyperthyroid patient or unexplained hyperthyroidism in a long-standing hypothyroid patient.