

THE USE OF OMEGA-3-FREE FATTY ACID AND MEDIUM CHAIN TRIGLYCERIDES IN COMBINATION WITH GLP-1 AND SGLT-2 IN THE MANAGEMENT OF OBESITY AND SEVERE REFRACTORY HYPERTRIGLYCERIDAEMIA



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INTRODUCTION

Hypertriglyceridaemia is a common encounter in diabetic patients. This is often refractory to conventional treatment especially those with triglyceride (TG) levels. The institution of medium chain triglyceride (MCT) and fish oil in addition to the Liraglutide, SGLT-2 and conventional insulin has rendered significant triglyceride, glucose level as well as weight reduction. This case report illustrates and imposes a different treatment modality apart from the current general approach.

CASE ILLUSTRATION

A 35-year-old morbidly obese (BMI of 45.2kg/m²) lady who has also underlying hypertension and type-2 diabetes mellitus for the past 7 years. She has been refractory to treatment with a range of HbA1c 11 to 12% despite subcutaneous Levemir 70u on night and subcutaneous Actrapid 32u tds. She was admitted for poorly controlled diabetes in February 2014. Her laboratory investigations on presentation revealed a fasting blood glucose (FBG) level of 20mmol/L and TG of 32.3mmol/L. Continuous insulin infusion and anti-lipaemic agent was initiated. On day-4, despite insulin infusion coupled with Atorvastatin 80mg OD, Fenofibrate 145mg OD and Orlistat 1-sachet BD, her best-reached TG level was 23.2mmol/L. She was then initiated on medium chain triglyceride oil (MCT) 1-tablespoon tds, Omega 3 fish oil 4g tds for 1-week. The fish oil was slowly tapered to 4g daily. Her resultant TG level declined from 32.3mmol/L to of 7.55mmol/L within 1-month and steadily decreasing to 3.18mmol/L and remained so throughout the treatment.

Liraglutide therapy was initiated, initially given 0.9mg/day and it was increased and maintained at 1.8mg/day. SGLT-2 agent, Forxiga 10mg od was added. With these 2 additional anti diabetic agent her HbA1c dropped from 12.1% to 9.2% within 6 months. Her insulin requirement slowly tapered and switched to subcutaneous Novomix 24U BD. This reduction of HbA1c is accompanied with weight reduction of 6kg within the period of 6 months. There was no side effect observe at this period of treatment.

CONCLUSION

This case illustrates a morbid obesity with poorly controlled diabetes and severe TG of 32.2mmol/L that was refractory to treatment. Additional of SGLT-2 and GLP-1 result in better control of her diabetic care. The conventional approach - lifestyle modification, standard antilipaemic and insulin treatment, in addition to the institution of omega-3 fatty acid and medium chain diet (MCT) can be an alternative modality to sustain TG level less of 10mmol/L.

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