Severe Hypertriglyceridemia in Type 1 Diabetes Accompanied by Acute Pancreatitis and Organomegaly

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INTRODUCTION:

Severe HTG usually occurs in a patient with genetic predisposition and exacerbated by secondary factors as diabetes, obesity, high alcohol intake or adverse effect of medication.

CASE REPORT:

21yr old female patient visited the emergency department with repeated attacks of vomiting accompanied with continuous non radiating epigastric pain diagnosed as acute pancreatitis. She had three plasmapheresis sessions

The patient gave history of recurrent similar attacks for the last 5 years with frequent hospitalization she is known diabetic since the age of 15.Hypertensive for 1 year .Menarche at age of 14 with only one cycle

Upon admission, the patient was alert ,Weight: 60 kg , Height : 164 cm. BMI: 22 Pulse: 90 beat /minute Blood pressure: 130/70 Respiratory rate: 14 /minute. Temperature: 37ºC Physical examination: Eruptive xanthoma on the extensor surface of the forearms & back.

Cardiac examination: apex localized in the left fifth space outside MCL, hyper dynamic. Hepatomegaly 2 fingers below RT costal, normal fundus, normal neurological examination Breast: Tanner 3, Pubic hair: Tanner 4 Laboratory investigations; RBS 375mg/dl HBA1C: 14.7 %, ABG (PH: 7.38 HCO3: 26 Mm/L SaO2 98.0%)

CBC HB;11.6 g/dl , TLC: 5.800/uL PLT:245,000/uL / CRP: 132mg/dl /Chol : 464mg/dl ,LDL: 257 mg/dl ,HDL: 25 mg/dl , TG: 9068 mg/dl Amylase: 1120U/L, Lipase : 370U/L/Na: 141mEq/L, K: 3.8 mEq/L, Urea :34mg/dl Creatinine:5mg/dl ,24 hrs. Urinary PTN : 1.146 gm. ALT: 17 IU/L, AST: 19IU/L ,Bil T: 0 .9mg/dl ,Albumin : 4 g/dl FSH:0.1,LH:0.5 ,Estradiol :5,TSH:1.7 ,FT4 :1,ACTH:12 ,Cortisol AM:8,GH:0.1ng/ml Abdominopelvic sonar showed: Enlarged Bright hepatomegaly 16 cms ,Mild splenomegaly. Diffuse enlarged pancreas of hypo echoic pattern, picture suggestive of acute pancreatitis. Enlarged swollen kidneys (RT kidney 154*48mm, LT kidney 152*75mm.) CT abdomen with contrast: Diffusely enlarged pancreatic head X-ray both arms: Bilateral distal humorous multiloculate bubbly lesion with sclerotic margin Echocardiography: Concentric LT ventricular hypertrophy .MRI brain (Bulky pituitary gland showing a focal central bulge (0.4x 1x0.7).

Renal biopsy: Minimal change glomerulonephritis.

After three plasmapheresis sessions, Intravenous insulin a marked reduction in triglyceride /total cholesterol levels was observed. CHOL 334mg/dl, LDL 190mg/dl, HDL 48mg/dl, TG 880mg/dl

She was discharged on dietary, lifestyle modifications and fenofibrates 4 month later she came for follow up Marked improvement of her xanthomata, regular cycles, TG 627mg/dl, HbA1c :8.9,normal pituitary imaging,no organomegaly

CONCLUSION:

Patients with severe hypertricylcerideamia require fast and effective lowering of TG levels in order to reverse the lipotoxic effect on different organs

KEYWORDS

hypertriglyceridemia; plasmapheresis; organomegaly,lipotoxicity

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