Case Report:

Pediatric Hypertriglyceridemia: Case Report from India

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Abstract:

Hypertriglyceridemia is condition associated with increase in triglyceride level in blood. In early cases this is usually seen as an asymptomatic. In the present case the boy with 7 years old has no any form of disorder or any factors concerned with hypertriglyceridemia. The case was diagnosed accidently when he visited to hospital. Triglyceride level was found 1150 mg/dl. We suggested basic lifestyle modifications to patient including exercise, low fat diet etc. The patient was managed with Feno TG, 160 mg (Fenofibrate) single dose daily treatment. Since last three years he was on the continuous Feno TG single dose drug therapy. Now the question is should we continue such treatment for lifetime? or should we stop that treatment? If we decided to stop that treatment the triglyceride level will be increasing & patient may suffers subsequent complications. Vice versa, if we continue such treatment, then the patient may suffer from drug complications. However today we planned to continue his drug treatment in future.

Keywords: Hypertriglyceridemia, Fenofibrate

Background:

Hypertriglyceridemia is condition associated with increase in triglyceride level in blood. In early stages this is usually seen as an asymptomatic. Most of times hypertriglyceridemia can be diagnosed accidently during routine screening of lipid profile test. If hypertriglyceridemia is associated with any pathology known as secondary hypertriglyceridemia, or if not associated with any other pathology known as primary hypertriglyceridemia. 1 In present case 7 years old child has no any form of secondary pathology or any factors concerned with hypertriglyceridemia. The case was diagnosed accidently when he visited to hospital.

Case Report: We reported a case of 7 years old male child with his parents visited to OPD with complaints of fever, cough, weight loss and loss of appetite in July 2009 from near village, Babhalewar. On careful history & examination he was found known case of tuberculosis since last one year. He was on short course AKT treatment from government primary health center located in his town. But latter he discontinued the said treatment after one month. Hence our team sent him to medicine department for confirmation of diagnosis and further management of tuberculosis. After x-ray examination, positive sputum test & positive Montoux test his plan of treatment was decided by DOTS center. The DOTS center choose short course therapy, AKT including Isoniazid, Riphampicin, Tzm & Ethambutol. After proper counseling by DOTS center & our team, he started regular treatment and follow up.

After 3 months during regular blood test we found increased in triglyceride level (1150 mg/dl ) in November 2009. Our team screened all other
examinations including his family history, regarding habits, diet pattern, any past history of renal failure, diabetes mellitus, abdominal pain, thyroid disorder etc. We were amazed with all negative results. In literature search we did not find any form of association between antitubercular drugs treatment and increase in level of triglycerides.

Hence we decided to continue the antituberculosis therapy with same drugs. We suggested basic lifestyle modifications to patient including exercise, low fat diet etc.

We started Tablet Feno TG (Fenofibrate), 160 mg single dose for six months. The patient was screened after three months. The triglyceride level was decreased. (260 mg/dl). Hence we continued same treatment for next three months. The patient was screened. Now the triglyceride level was 180 mg/dl. Hence we planned to discontinue the treatment. The patient was asked to visit OPD after three months.

The patient was tested for triglyceride level again after three months. The triglyceride level was increased. (650 mg/dl) Hence we started Feno TG tablet 160mg for next three months. Such two cycles were repeatedly occurred. During Feno TG medication regular blood tests were done including routine haemogram with blood counts, Renal function tests (RFT), Liver function tests (LFT).

We changed the plan of treatment & continued same medication for next six months. The triglyceride level was checked after one year & it was found normal. (145 mg/dl)

**Discussion:** In hypertriglyceridemia there is a hereditary predisposition to both primary as well as secondary hypertriglyceridemia. In our case such history was not found. Elevated level of hypertriglyceridemia may be associated with atherosclerosis. Sometimes it may be associated with skin lesions, known as xanthomas. It may be associated with hepatosplenomegaly, neurological disorders or eye abnormalities. There are seen evidences of pain in abdomen mainly due to acute pancreatitis when triglycerides level cross over 1000 mg/dl.2 our patient was found totally asymptomatic. There was no history of abdominal pain, skin lesions etc. The cardiovascular parameters including blood pressure (122/68 mmHg), radial pulse (82/minutes) were unaffected. Observational studies have shown an association between increased cardiovascular risk and hypertriglyceridemia.1

In many cases Hypertriglyceridemia is seen associated with high carbohydrate diet, excess alcohol intake, obesity etc. It may also associated with certain disorder like renal failure, Diabetes mellitus, Hypothyroidism, Systemic Lupus Erythematosus, Glycogen storage disease type 1. Etc. Many cases of Hypertriglyceridemia are seen with genetic predisposition. In present case the patient was found with no history of alcohol intake, smoking, obesity, high carbohydrate diet, diabetes mellitus, thyroid disorder or any other specific illness directly concerned with hypertriglyceridemia.2

The patient was known case of tuberculosis & successfully treated for tuberculosis. There were not seen any association between antituberculosis drugs & Hypertriglyceridemia.3

The patient with mild to moderate form of Hypertriglyceridemia, certain lifestyle modifications are recommended. In such cases Exercise like brisk walking, cessation of tobacco use, Weight loss & diet management may be helpful in reduction of Hypertriglyceridemia. Very high levels that would increase the risk of pancreatitis is treated with a drug from the fibrate class. Fibrates can markedly lower triglyceride levels (40 to 60 percent) and modestly
raise HDL-C levels (15 to 25 percent). Niacin and omega-3 fatty acids as well as drugs from the statin class may be used in conjunction, with statins being the main drug treatment for moderate hypertriglyceridemia where reduction of cardiovascular risk is required. Niacin lowers triglyceride levels by 30 to 50 percent, raises HDL-C levels by 20 to 30 percent, and lowers LDL-C levels by 5 to 25 percent. Niacin is not as potent as fibrates for lowering triglyceride levels but is more effective at raising HDL-C levels. The use of niacin is limited because of the risk of vasomotor side effects and elevation of liver enzyme levels. Randomized controlled trials have shown that, along with statins, fish oil is the only other lipid-lowering agent that can decrease all-cause mortality in patients with known heart disease.

In our patient we suggested lifestyle modifications including exercise, walking, diet management plan & avoidance of any form of addiction. The patient was treated with such treatment continued from last more than three years in the form of intermittent duration. Patients with high triglyceride levels (above 500 mg/dl) usually require drug therapy in addition to therapeutic lifestyle changes. Fibrates or niacin is a practical first-line drugs for these patients. These medications are helpful in preventing complications like acute pancreatitis, xanthomas, renal failure etc. Now the question is should we continue such treatment for lifetime? or should we stop that treatment? If we decided to stop that treatment the triglycerides level will increasing & patient may be suffers subsequent complications. Vice versa, if we continue such treatment, then the patient may suffer from drug complications. However we planned to continue his drug treatment.

References:

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