

CASE REPORT

A CASE OF MYOPATHY CAUSED BY SIMVASTATIN IN A HYPERTENSIVE DIABETIC PATIENT- A CASE REPORT

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Abstract : Simvastatin induced myopathy is rare but an important adverse effect. A case of myopathy in a hypertensive diabetic patient presenting as proximal muscle weakness in both upper extremities induced by long term use of simvastatin is being reported.

INTRODUCTION

Simvastatin and other statins are the most frequently prescribed medications for hyperlipidemia with rare adverse effect of myopathy^{1,2}. Various megatrials have reported the incidence of myopathy as 0.025%^{3,4}. Myopathy secondary to statins is defined as unexplained muscle pain, weakness or muscle tenderness with a rise of creatinine kinase to more than 10 times the upper limit of normal which is reversible on stoppage of drug^{2,5}. Other features of statin induced myopathy include lack of pre-existing muscular symptoms, delay in onset of symptoms after exposure, lack of any demonstrable cause for myopathy and disappearance of symptoms after their cessation⁶. We report a case of myopathy presenting as proximal muscle weakness in both upper extremities following the use of simvastatin, which disappeared on its stoppage.

CASE REPORT

A 60 year old obese post-menopausal female with history of hypertension and diabetes for 10 years and history of myocardial infarction had triple vessel disease and had undergone CABG. She was taking atenolol 100 mg od, glimepiride 2 mg od, ramipril 5 mg od, metformin 500 mg tds, simvastatin 20 mg od and clopidogrel 75 mg od. After 5 months of simvastatin treatment, her total cholesterol, triglycerides, LDL and HDL changed from 220, 200, 160 and 36 mg% to 160.20, 122.60, 99 and 40 mg% respectively. The dose of simvastatin was reduced to 5 mg daily. After one month of giving simvastatin in dosage of 5 mg daily i.e. a total of 6 months, she presented to us with symptoms of weakness in both arms and difficulty in raising arms above head since 10 days but there was no weakness of hand and wrist muscles. The lower extremities did not show any weakness. There was no history of muscle pain, swelling, tenderness, fasciculation of muscles or atrophy, headache, vomiting, diplopia, ptosis, nasal regurgitation of food and water, speech involvement, root pains, painful neck movements, bladder or bowel involvement, seizures or loss of consciousness. There was no history of concomitant administration of drugs like erythromycin, corticosteroids, ketoconazole, risperidone, amiodarone, gemfibrozil, cyclosporine, nicotinic acid, clofibrate etc. There was no evidence of severe infection, hypotension and electrolyte imbalance. On examination, her pulse rate 62/min, BP 130/80 mmHg, respiratory rate 16/min. Higher functions, speech, cranial nerves, muscle bulk and tone (both upper and lower limbs), were normal. The power at both shoulder joints was 3/5. The deep tendon reflexes in both upper and lower limbs were normal with normal power in both lower extremities. There were no signs of meningeal irritation. Gait, skull and spine were normal.

Her laboratory profile included Hb 10 gm%, TLC 9000/mm³, DLC N70 L28 M1 E1, ESR 18 mm in first hour, FBS 96 mg%, B urea 30 mg%, S. creatinine 1.2 mg%, S. bilirubin 0.9 mg%, SGOT 35 IU, SGPT 38 IU, S. Na+ 138 meq/L, S. K+ 4.2 meq/L, Hb A1C 7.1% with normal urine examination. CPK levels were 2600 IU/L, serum aldolase 30 IU/L and LDH level 600 IU/L. Tests such as rheumatoid factor, antinuclear antibodies and HIV Elisa were negative. Thyroid function tests were normal. The patient did not allow for taking muscle biopsy. The diagnosis of statin related myopathy was entertained and she was asked to continue all medications except simvastatin. During next 3-4 days, her muscle weakness improved to normal in both upper limbs and her CPK, serum aldolase and LDH levels returned to normal i.e. 150 IU/L, 5 IU/L and 150 IU/L respectively further

confirming the whole episode as simvastatin induced myopathy. She was followed up for 6 months without reporting any recurrence.

DISCUSSION

Statins play an important role in the management of patients with hyperlipidemia, hypertension, diabetes and coronary artery disease with studies showing improved morbidity and mortality outcome with their appropriate use reporting three cases of simvastatin (given in dosage of 5-40 mg per day) induced myopathy in 12000 patients (approximate incidence 0.025% or one case per 10000 patients - years)^{3,7}. Simvastatin, HMG - Co A reductase inhibitor, inhibits cytochrome P450 enzyme resulting in accumulation of drug leading to myotoxicity by causing lysis of muscle cells in the form of reduction in muscle cell wall cholesterol⁷.

Statins should be stopped temporarily in conditions predisposing to rhabdomyolysis such as hypotension, severe infections, trauma, major surgery, uncontrolled seizures as well as severe endocrine, electrolyte and metabolic disorder. Concomitant administration of statins should be avoided in patients on use of erythromycin, clarithromycin, ketoconazole and protease inhibitors etc. Patients with severe hepatic or renal disease need lowering of dose of simvastatin⁸.

Myopathy is dose dependant and is rapidly reversible if diagnosed early and treated with volume repletion and withdrawal of drug. So these patients on simvastatin use need close monitoring. Myopathy secondary to simvastatin in a type 2 diabetes patient has also been reported by other workers.⁹ But simvastatin induced myopathy is rare yet important adverse effect hence the case report.

CONCLUSION

This report raises the concern about the safety profile of statins. Physicians should be made aware about the possibility of late adverse reactions in the form of myopathy. There is also need of awareness on the part of physicians regarding potential drug-drug interactions which predispose to statin toxicity thus leading to myopathy. Patients need to be educated as to signs and symptoms requiring immediate physician intervention.

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