"Rhabdomyolysis possibly provoked by a sitagliptin-atorvastatin interaction" PS-006

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Background
Association between sitagliptin and myopathy is exceptional, although four cases of rhabdomyolysis caused by a statin-sitagliptin interaction have been already reported, one of them with atorvastatin.

Purpose
We present a case of rhabdomyolysis with hypomagnesemia and acute kidney failure caused by a potential interaction between sitagliptin and atorvastatin.

Materials and methods
Description of the clinical picture, physical examination and laboratory data: serum electrolytes, kidney function blood test, creatine phosphokinase (CPK) and lactic dehydrogenase (LDH). Use of the Drug Interaction Probability Scale (DIPS) to establish a possible interaction between the two drugs.

Results
An 80-year-old man with hypertension, diabetes treated with metformin, dyslipidemia, myocardial infarction and recent ictus, admitted because asthenia, confusional syndrome, myalgia, muscle cramps and fasciculations. Other chronic medication was acetylsalicylic acid 100mg od, isosorbide mononitrate 60mg bd, nevibolol 5mg od, furosemide 40mg od, manidipine 10mg od, famotidine 20mg od and zolpidem 10mg nocte. This picture started after increasing from 40 to 80 mg/day of atorvastatine later on the refered ictus, and after associating sitagliptin to metformin because poor glycemic control. Laboratory data: urea 49.3 mg/dL; creatinine 1.45mg/dL; sodium 145.2mg/dL; potassium 3.3 mg/dL; calcium 4.9 mg/dL; P 5.1 mg/dL; magnesium 0.9 mg/dL; CPK 1253 IU/L; LDH 352 mg/dL; albumin 2.6 mg/dL; uric acid 9.2 mg/dL; D-vitamin 43.0 ng/mL. Calcium 10% gluconate (IV) and oral lactate magnesium (60 mg/day) was prescribed. When calcemia levels were around 8-9 mg/dL, treatment was switched to oral. Clinical and analytical improvement was observed seven days after sitagliptin and atorvastatin were interrupted. Atorvastatin (40mg/day) was reintroduced later. Calcium, magnesium, uric acid, CPK and LDH went back to normality. By contrast, kidney function has not completely recovered. Use of DIPS indicated a possible interaction (score of 4) between sitagliptin and atorvastatin.

Conclusions
There is a possible interaction between sitagliptin and atorvastatin. Atorvastatin dose was increased from 40 to 80mg, so it can not be assured that the clinical profile was entirely caused by sitagliptin introduction. Furthers studies about effect of sitagliptin on the cytochrome P4503A4 system needs to be done. Meanwhile, this interaction should be taken into account by the prescriptors and pharmacists.