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Rhabdomyolysis induced acute kidney injury cause by statin in patient with alcoholic liver cirrhosis : a case report

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Case Study : Statins are well-known drugs for hepatotoxicity, renal toxicity, and muscle toxicity, and rhabdomyolysis and acute kidney injury(AKI) are often reported. Therefore, in situations where hepatic implements such as alcoholic liver cirrhosis(ALC) are suspected, it is necessary to review statin administration. This case report attempts to describe the risk of statins in ALC patients. A 59-years-old female with a medical history of diabetes mellitus, ALC, cerebral infarction, status postoperative appendectomy, presented to the hospital with general weakness with alert mentality. She was taken Fluvastatin 80mg once daily for 2 years and atorvastatin 10mg once daily for 3 years thereafter. On initial evaluation at the emergency department, her blood pressure was 137/78mmHg, pulse was 108/min, respiratory rate 20/min and body temperature was 36.6°C. Laboratory workup revealed the following data: white blood cells, 9320/μL; hemoglobin, 6.4/dL; platelet, 40000/μL; D-dimer, 13.77μg/mL; aspartate aminotransferase, 1069 IU/L; alanine aminotransferase, 353 IU/L; alkaline phosphatase, 155IU/L; total bilirubin, 8.76mg/dL; creatinine(Cr), 1.16mg/dL; blood urea nitrogen, 30mg/dL; activated partial thromboplastin time, 52.8 seconds; prothrombin time, 23.8 seconds; albumin, 1.8g/dL; Creatine kinase, over 7800IU/L; lactate dehydrogenase, 4116IU/L; serum myoglobin, 13653ng/mL; urine myoglobin 75.32ng/mL. Her urinalysis revealed the following data: RBC, less than one/high power field; Occult blood 250(+++)/μL. Endoscopy was performed for evaluation of ALC, and esophageal varix was found. Hepatitis viral marker showed negative findings. Considering that Cr level was 0.73mg/dL 3 months before admission, it can be diagnosed as AKI stage I by increasing 1.5 times from the previous level. Rhabdomyolysis was diagnosed due to increased uptake in several muscles at whole body bone scan, including iliopsoas muscles(Figure 1). As a treatment for rhabdomyolysis, 0.9% saline fluid challenge was started. Statin discontinued. Her renal and liver function continued to improve and discharged(Table 1). In conclusion, this case demonstrates risk of long term administration of statins in ALC patients.

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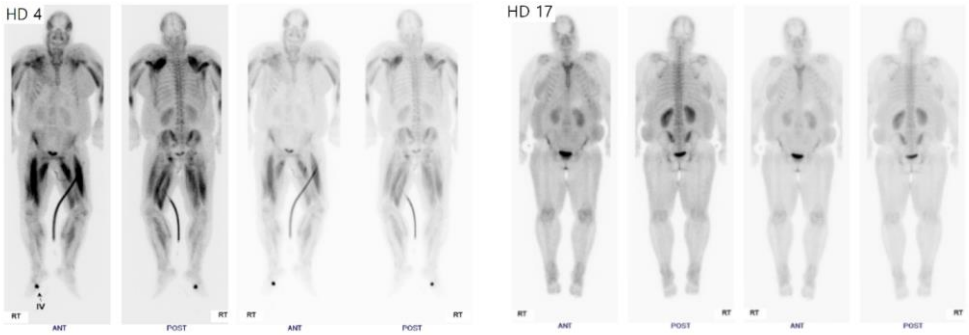
Figure 1. Rhabdomyolysis on whole body bone scan.



Left; Whole body bone scan(WBBS) at hospital day(HD) 4, Right; WBBS at HD 17.

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HD	1	2	3	4	6	8	10
CK (IU/L)	22100	11930	9945	8579	3690	1883	845
Myoglobin (ng/mL)	13653	10408	8774	3181	587.3	172.1	77.3
SCr (mg/dL)	1.16	0.9	0.76	0.53	0.46	0.53	0.52

Table 1. Changes in serum creatinine, creatine kinase and myoglobin.

HD; hospital day, CK; creatine kinase, SCr; serum creatinine