**ABSTRACT**

Many drugs can induce MM myotoxicity. Creatine kinase (CK) has been used as a biomarker of the process. The present study investigated the role of slow skeletal muscle troponin I (ssTnI) as a biomarker of MM toxicity. Female Sprague-Dawley (SD) rats were used. Six groups were dosed for up to 14 days. Body weight was assessed at the beginning of treatment. The effects of simvastatin on skeletal muscle were assessed by light microscopy and immunohistochemistry. The results showed that MM toxicity can be detected using ssTnI as a biomarker. The levels of ssTnI were not consistent.

**RESULTS**

Figure 1. Light micrographs from H&E stained tissues from female SD rats showing 0.5% CMC controls and alterations in rats treated for 14 days with either 80 mg/kg Simvastatin. (A) Normal soleus muscle from rats receiving 0.5% CMC for 14 days. (B) Normal soleus muscle from rats receiving 80 mg/kg of simvastatin for 14 days showing minimal necrotic muscle fibers and inflammation (arrows). (C) Normal control liver from a rat receiving 0.5% CMC for 14 days. (D) Normal control liver from a rat receiving 80 mg/kg of simvastatin for 14 days showing minimal necrotic muscle fibers and inflammation (arrows). (E) Normal control liver from a rat receiving 0.5% CMC for 14 days. (F) Normal control liver from a rat receiving 80 mg/kg of simvastatin for 14 days showing minimal necrotic muscle fibers and inflammation (arrows).

**INTRODUCTION**

Drug-induced MM myotoxicity results in a varying degree of symptomatology, from mild discomfort to permanent symptoms such as muscle pain, weakness or tenderness and serum creatine kinase (CK) levels (Victor and Sieb, 1994). Careful patient care is required, and CK levels should be monitored. Careful patient care is required, and CK levels should be monitored. It has been suggested that CK levels be allowed to increase 3 to 5 times over the acceptable baseline level before stopping treatment. It has been suggested that CK levels be allowed to increase 3 to 5 times over the acceptable baseline level before stopping treatment. The role of SS-TnI as a biomarker for MM toxicity is to be investigated.

**MATERIALS/METHODS**

Simvastatin (Sequoia Research Products) was dissolved in 0.5% Methyl Cellulose (CMC). Treatment dosage formulation contained 0.05% CMC, 0.05% Methyl Cellulose and 0.95% water. All rats were divided into six groups (A-F), with 5 rats per group. The rats were dosed daily for 14 days. The treatment groups included: A) 0.5% CMC; B) 1.0% CMC; C) 2.5% CMC; D) 1.4% Simvastatin; E) 4% Simvastatin; F) 2.4% Simvastatin.

**REFERENCES**