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**Review**

## Drug-induced myopathies. An overview of the possible mechanisms

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**Abstract:**

Myopathy is usually a non-fatal muscle disease involving skeletal muscle weakness, tenderness and pain with the possibility of the plasma creatinine kinase elevation. There are many different types of myopathies, some of which are genetic, inflammatory, or related to endocrine dysfunction. Also, numerous drugs have been reported to possess myotoxic effect. Myopathy is included among the potential side-effects and toxicities associated with the lipid lowering agents, particularly 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) reductase inhibitors. However, the precise mechanism of statin-induced muscle toxicity remains unclear. The muscle-related side-effects reported with lipid-lowering drugs are significant but quite rare (0.1%), when used in monotherapy; while the incidence of steroid-induced myopathy has varied from 7 to 60% and chronic alcoholic myopathy seems to be common complication of alcoholism affecting approximately 50% of patients, respectively.

This review focuses on the differential pathophysiological grounds of these muscular injuries induced by statins, fibrates, as well as some other agents: corticosteroids or alcohol. A wide spectrum of possible mechanisms and hypotheses including muscle enzyme defects, changes in mitochondrial function and intracellular metabolism, the influence on the cell membrane stability and drug interactions involving P-glycoprotein or cytochrome P 450 system have been presented.

**Key words:**

myopathy, mechanism, ethanol, corticosteroids, HMG-CoA reductase inhibitors

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