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## **That Persistent Muscle Pain May Be Drug-Induced**

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Patient complaints of nonspecific muscle pain; tenderness; weakness; joint pains; peripheral neuropathy; tendinopathy; and lupus-like symptoms may be caused by the use of cholesterol-lowering drugs (statins).<sup>1</sup> In the *New York Times*,<sup>2</sup> Jane Brody describes the case of an 82-year-old patient who died as a result of a longstanding, undetected muscle disease, caused by a statin drug she took for years to control her cholesterol. She complained of muscle pains that were never attributed to the drug. She even underwent an operation that did not relieve the shoulder pain. She developed skin lesions and was treated with antifungal agents which, combined with the statins, increased the severity of the muscle pain. Within three months, she was unable to stand or breathe on her own and died.

Multiple drug therapy, along with the statins, increases the danger. Chazerain, et al.,<sup>3</sup> reported on four cases, involving three men and one woman. The diagnoses were: extensor tenosynovitis at the hands (case 1); tenosynovitis of the tibialis anterior tendon (case 2); and Achilles tendinopathy (cases 3 and 4). Two patients were on simvastatin, and two were on atorvastatin. Tendinopathy developed one to two months after treatment initiation; outcomes were consistently favorable within one to two months following discontinuation of the drug.

Statins such as Lipitor, Mevacor, Zocor, Pravachol and Lescol all lower cholesterol by inhibiting the liver enzyme HMG CoA reductase. Without this enzyme, the liver cannot make its own cholesterol, so the liver removes cholesterol from the blood for use in producing hormones and other cell functions. Chazerain, et al., found: "Although most patients tolerate statins extremely well, a few experience side effects requiring treatment discontinuation. Reported musculoskeletal side effects include myalgia and a few cases of rhabdomyolysis and polymyositis."<sup>3</sup>

Elevated levels of creatinine-phosphokinase (CPK) will be present, indicative of muscle breakdown. Muscular necrosis can follow, leading to kidney failure and eventual death. Hodel, et al., reported: "Though

strong epidemiological data are lacking, the incidence of myopathy is probably similar for all lipid-lowering drugs and is in the range of 0.1-0.5 percent with monotherapy, increasing to 0.5-2.5 percent with combination (multiple drug) therapy."<sup>4</sup> Others state that adverse reactions due to statins involving skeletal muscle occur in the range of 1-7%.<sup>5</sup> Rhabdomyolysis is considered rare among statin users, with less than one death per million prescriptions (except in the case of Cervistatin, which was associated with a tenfold higher incidence of myotoxicity than any other statin, and was removed from the market). Statins represent only one drug with "rare side-effects" - yet medicine has the audacity to jump on cervical manipulations as the cause of strokes!

In rhabdomyolysis, the muscle cells are destroyed, and the byproducts are released into the bloodstream and carried to the kidneys. Cellular destruction to skeletal muscles generally results in the release of myoglobin into the bloodstream. Since myoglobin contains iron, excess concentrations can occlude or clog the pathways of the kidneys, leading to kidney failure and eventual death.

Unrelated to drug-induced rhabdomyolysis is a condition known as exertional rhabdomyolysis. Excessive exercise, especially of the eccentric type, can injure myofibrils and sarcolemma, causing the release of creatine kinase and pigmented myoglobin into the serum. The patient will complain of abnormal urine color (dark red or brownish) with severe muscle pain, especially in the lower back and calf muscles, although any muscle group may be involved. This condition was originally considered a disease of military recruits, but is appearing more often in our exercise-predominant culture.

The patient may also complain of fever, nausea, vomiting and general malaise. Acute renal failure is the worst complication. The mainstay of therapy is large volumes of intravenous fluid (usually normal saline).<sup>6</sup> "An alteration in the urine color after recent moderate or exhausting exercise may be caused by a variety of conditions. These may relate directly to exercise (foot-strike hemolysis, the destruction of erythrocytes caused by the mechanical pounding of running; bladder or other genitourinary trauma; or true rhabdomyolysis) or events coincidental to the activity (ingestion of phenazopyridine; true hemolytic anemia; hepatitis; malaria; and genitourinary disease). However, dark urine in an athlete is usually due to the presence of released myoglobin from damaged striated muscle."<sup>6</sup>

### *References*

1. Chazerain P, Hayem G, Hamza S, Best C, Ziza JM. Four cases of tendinopathy in patients on statin therapy. *Joint Bone Spine* Oct 2001;68(5):430-3.
2. Brody, J. Statins: Miracles for some, menace for a few. *New York Times* Personal Health column Dec 2002.
3. Chazerain P, Hayem G, Hamza S, Best C, Ziza JM. "Four Cases of Tendinopathy in Patients on Statin Therapy." Rheumatology and Internal Medicine Department, Hospital dela Croix-Saint-Simon, Paris, France. p.chazerain@croix-saint-simon.org.
4. Hodel C. Myopathy and rhabdomyolysis with lipid-lowering drugs. *Toxicol Lett* Mar 2002;128(1-3):159-68.
5. Evans M, Rees A. The myotoxicity of statins. Department of Diabetes and Endocrinology, University Hospital of Wales, Heath Park, Cardiff, UK. marc.evans2@ntlworld.com.
6. Hamer, Rod. When exercise goes awry: exertional rhabdomyolysis. Abstract. [www.spiralnotebook.org/index.html](http://www.spiralnotebook.org/index.html).

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