

MSU researcher studies ties between cholesterol drugs, muscle problems

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A Michigan State University researcher is studying whether the most popular class of cholesterol-lowering drugs may cause muscle problems in users.

There is accumulating evidence that the effect statins can have on skeletal muscle – including muscle weakness, fatigue and deterioration – is underestimated, said Jill Slade, assistant professor of radiology and osteopathic manipulative medicine at MSU.

"Statins work by preventing cholesterol from forming," said Slade, whose study is funded by a two-year, \$230,000 grant from the National Institutes of Health. "While this is a good thing inside structures such as liver cells, it can be problematic in places such as muscle cells."

About 50 percent of all Americans over the age of 50 are prescribed a statin medication, including Lipitor, Crestor and Torvast, and their use has tripled in the past seven years. Side effects affecting skeletal muscles have been reported in up to 7 percent of users, though Slade thinks that number could be higher.

In August 2001, the Food and Drug Administration pulled the statin Baycol off the market after it appeared to be responsible for 31 deaths through a potentially fatal breakdown of muscle tissue known as rhabdomyolysis. The FDA at the time said the muscle breakdown occurred more frequently in patients taking Baycol than in patients on other statins. The National Lipid Association in 2006 published

recommendations on investigating statin-induced muscle problems, and Slade's research will directly address several of those.

As part of her study, Slade will use nuclear magnetic resonance imaging at the MSU Department of Radiology Exercise and Nutrition Lab to measure muscle integrity and function before and during statin treatment. Fifty people – half taking high doses of statins and half taking low doses – will be analyzed over a one- to six-month period.

"While statins have tremendously helped millions of Americans lower their cholesterol and improve their cardiac health, we need to be confident we are not causing other problems in the body," Slade said. "It is important to understand the side effects of using statins and have the tools to identify people who may be more susceptible to them."

Source: Michigan State University

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