© 2010 Adis Data Information BV. All rights reserved.

Statins and Muscle Adverse Effects

A Complementary Perspective

We appreciate the article by Chatzizisis et al., [1] which focused on risk factors and drug interactions as they relate to HMG-CoA reductase inhibitor ('statin') muscle adverse effects. We would like to direct readers to our review article on statin adverse effects: [2] tables I, II and IV, and III of our paper (respectively) parallel table I, figure I and table III of the Chatzizisis et al. paper. These address reported types of muscle adverse effects, adverse effect risk factors and drug interactions, in many cases complementing and/or supplementing findings provided by Chatzizisis et al., and also placing the findings in a theoretical framework.

It may also bear note that 'Chinese red rice fungus' (more commonly called red yeast rice, sometimes termed red mould rice), listed in their drug interaction table (not as a hypolipidaemic agent), might reasonably be viewed as a statin agent itself. Red yeast rice, which lowers cholesterol, [3] indeed contains statin agents, including lovastatin. [4-6]

We applaud Chatzizisis and colleagues for bringing further attention to this important topic.

Beatrice A. Golomb, ^{1,2} Sabrina Koperski¹ and Marcella A. Evans³

- Department of Medicine, University of California, San Diego, California, USA
- 2 Department of Family and Preventive Medicine, University of California, San Diego, California, USA
 - 3 School of Medicine, University of California, Irvine, California, USA

Acknowledgements

The authors have no conflicts of interest to declare.

References

 Chatzizisis YS, Koskinas KC, Misirli G, et al. Risk factors and drug interactions predisposing to statin-induced myopathy: implications for risk assessment, prevention and treatment. Drug Saf 2010; 33: 171-87

- Golomb BA, Evans MA. Statin adverse effects: a review of the literature and evidence for a mitochondrial mechanism. Am J Cardiovasc Drugs 2008; 8: 373-418
- Venero CV, Venero JV, Wortham DC, et al. Lipid-lowering efficacy of red yeast rice in a population intolerant to statins. Am J Cardiol 2010; 105: 664-6
- Tsukahara M, Shinzato N, Tamaki Y, et al. Red yeast rice fermentation by selected *Monascus* sp. with deep-red color, lovastatin production but no citrinin, and effect of temperatureshift cultivation on lovastatin production. Appl Biochem Biotechnol 2009; 158: 476-82
- Smith DJ, Olive KE. Chinese red rice-induced myopathy. South Med J 2003; 96: 1265-7
- Prasad GV, Wong T, Meliton G, et al. Rhabdomyolysis due to red yeast rice (*Monascus purpureus*) in a renal transplant recipient. Transplantation 2002; 74: 1200-1

The Authors' Reply

We read with interest the letter by Golomb et al.,[1] regarding our recent review article on statin-related myopathy. [2] Our purpose was to provide an up-to-date, comprehensive review of potential factors that may increase the myopathic risk of patients treated with HMG-CoA reductase inhibitors ('statins'). Because of the widespread use of statins, this has long been, and still remains, a widely discussed topic. Given the vast number of publications on the safety profile and potential side effects of statins, the presentation of the tables and figures that summarize the major points of our article may be viewed as complementary to previously published work, [3,4] including, but certainly not limited to, the excellent article by Golomb and Evans.^[5] We feel that an additional contribution of our paper is putting the theoretical points into a clinical perspective, as we summarize recent guidelines and current evidence regarding the diagnostic evaluation and management of statin-induced myopathy in our figure 2.

Regarding Chinese red rice fungus, it is indeed well known to contain statin agents. However, for the sake of consistency and clarity of presentation, we felt that it would not be reasonable to include an over-the-counter lipid-lowering agent in the same category as prescribed hypolipidaemic drugs.

We thank Golomb et al. for their insightful comments on our work.

804 Letter to the Editor

George D. Giannoglou, ¹ Konstantinos C. Koskinas² and Yiannis S. Chatzizisis¹

- 1 1st Cardiology Department, AHEPA University Hospital, Aristotle University Medical School, Thessaloniki, Greece
- 2 Cardiovascular Division, Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA

Acknowledgements

The authors have no conflicts of interest to declare.

References

- Golomb BA, Kopersli S, Evans M. Statins and muscle adverse events: a complementary perspective [letter]. Drug Saf 2010; 33 (9): 803
- Chatzizisis YS, Koskinas KC, Misirli G, et al. Risk factors and drug interactions predisposing to statin-induced myopathy: implications for risk assessment, prevention and treatment. Drug Saf 2010; 33: 171-87
- 3. Armitage J. The safety of statins in clinical practice. Lancet 2007; 370: 1781-90
- Sathasivam S, Lecky B. Statin induced myopathy. BMJ 2008; 337: a2286
- Golomb BA, Evans MA. Statin adverse effects: a review of the literature and evidence for a mitochondrial mechanism. Am J Cardiovasc Drugs 2008; 8: 373-418