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LETTER

Response to 'Statins accelerate the onset of collagen type II-induced arthritis in mice' – authors' reply

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We thank Mathieu and colleagues for their interest in our recent publication [1] and for reporting their very interesting experiments showing that intraperitoneal but not subcutaneous simvastatin inhibits arthritis progression in the mouse collagen-induced arthritis (CIA) model [2]. These results are in line with those of Palmer and colleagues, who showed that intraperitoneal but not oral simvastatin administration inhibited pre-existing CIA [3].

According to Mathieu and colleagues, in our study we found that 'oral atorvastatin and pravastatin had no effect on the arthritis score after CIA induction' [2]. This statement is not correct, however. In our study, the number of arthritic animals increased from seven out of 12 in the nonstatin-treated controls to 12 out of 12 animals given oral atorvastatin and pravastatin, both after CIA induction (Figure 3A in [1]). Moreover, the summed arthritis score increased from 21 in the nonstatin-treated controls to 37 for oral pravastatin and 49 for oral atorvastatin, both after CIA induction (Figure 3B in [1]).

Since our aim was to investigate the possible effects of statin intake upon arthritis development and severity, we chose to administer statins orally – the common route of administration for patients receiving statins. The findings from Mathieu and colleagues [2] underscore that statins have an immunomodulatory activity. Altogether, one may conclude that the outcome of statins on immune responses may depend on the type of statin, the dose, and the route of administration. Whereas we acknowledge that statins may have beneficial immunological effects, statins may also play a role in the induction of autoimmunity, as we have also shown in a general population-based study [4].

Abbreviations

CIA, collagen-induced arthritis.

Competing interests

The authors declare that they have no competing interests.

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