Statin Use and Osteoarthritis

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The Authors' Reply—We thank Dr Rashid for highlighting the importance of our findings,¹ as well as the wider generic implications that relate to common treatment pathways and shared mechanisms in the pathogenesis of chronic diseases such as cardiovascular disease and osteoarthritis.

There has been much interest in the pleiotropic effects of statins, and a number of studies have provided supportive as well as contrarian evidence. For example, in a large database study, Smeeth et al. showed that for a range of outcomes, statin use was not associated with benefit.² However, this study did not include osteoarthritis as an outcome, and the statin measure was defined simply as use or non-use, without consideration of potential dose threshold effects. The implication of these results is not that potential pleiotropic effects do or do not occur for a specific drug class such as statins, but whether they are placed within well-constructed and impartial hypotheses using the current evidence base on mechanisms.

The broader and generic implications of this study on shared mechanisms are scientifically exciting, and again require a measured and clear approach. Broadly, the mechanisms for osteoarthritis in our paper focused into either anti-inflammatory properties of statins or a modification of the metabolic process. We agree that there is evidence for an inflammatory component to osteoarthritic joints, whilst the evidence on whether this can be mediated systemically in generalised osteoarthritis remains to be

established clearly.³ Combined with findings from a Swedish cohort,⁴ our article suggests that there is a clear need for further research into the shared mechanisms in cardiovascular disease and osteoarthritis, as well as trials on the feasibility of using statins in osteoarthritis. We should also add that osteoarthritis is a 'complex' chronic disease that encompasses broader determinants, such as psychological status⁵ and mechanical factors, which means that both drug and non-drug therapeutic approaches and mechanisms may need to be delineated clearly.

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