Interpretation of the Association between Beta-Blockers and Hip/Femur Fracture

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Dear Sir,

In a recent publication on the effects of carvedilol and low-turnover bone disease, Dr. Goto and colleagues have cited our work [1, 2]. They wrote that ‘we have suggested that use of beta-blockers is associated with a reduced risk of fractures’ [1]. We are afraid that this does not reflect the key finding of this study: although we observed a small inverse association between beta-blocker use and risk of hip/femur fracture in Dutch and British patients, it is unlikely that this effect was causal: ‘the effect was constant with cumulative dose and the odds ratio [between beta-blocker use and hip/femur fracture risk, FV] was below 1.0, even among patients who had just started treatment with beta-blockers. As the mechanism by which beta-blockers could influence BMD is likely to need

some time to exert a clinically relevant effect, this finding suggests that the association between beta-blockers and fracture risk is not causal’ [2]. Although our study was conducted 5 years ago, we are not aware of any additional strong evidence which justifies a different interpretation of those findings.

Disclosure Statement

The Department of Pharmacoepidemiology and Clinical Pharmacology, Utrecht Institute for Pharmaceutical Sciences, employing authors Frank de Vries and Patrick Souverein, has received unrestricted funding for pharmacoepidemiological research from GlaxoSmithKline, Novo Nordisk, pri-

vate-public funded Top Institute Pharma (www.tipharma.nl) and includes co-funding from universities, government and industry, the Dutch Medicines Evaluation Board and the Dutch Ministry of Health.

References

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Reply

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We appreciate the interest of Dr. de Vries and Dr. Souverein in our report. We believe they have concluded that an association between beta-blockers and fracture risk is not causal, although they observed a small inverse association between the use of beta-blockers and the risk of hip/femur fractures. We have cited seven papers [1–7] that suggest that the use of beta-blockers is associated with a reduced risk of fractures. These papers, except for their paper, concluded that treatment with beta-blockers is associated with a reduced risk of fractures. However, as they have mentioned, the evidence is limited because all of these are observational studies. Therefore, to clarify the clinical effect of beta-blockers on fractures in humans, large randomized controlled trials that include fracture as an endpoint should be conducted.

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