Authors' response

We thank Mahajan[1] for her comments on our article[2]. The comments, in summary are related to validity of controls, matched analysis, and regarding the term "cross-sectional study".

In our study, the term "cross-sectional study design" was used to identify "cases" *i.e.* patients with type 2 diabetes millitus (T2DM) who were on treatment with oral hypoglycaemic agents (OHA) for three or more years from among a pool of patients with T2DM. We had studied the patients on one occasion only and did not prospectively follow up these patients in time to study the development of osteoporosis.

The selection of controls for this type of study could have been done in several ways. To test the hypothesis that exposure to OHA affects bone mineral density (BMD) in patients with T2DM, "diseased controls" *i.e.* patients with T2DM who were not receiving OHA and who were also not using medications that are known to interfere with the calcium metabolism would have been a choice. However, this would have given us an under-estimated odds ratio (OR). For this reason we did not select such "diseased control subjects". Also, it is very difficult to find such "diseased controls" as such patients are uncommonly encountered in present-day routine clinical practice. For this reason we chose "age- and gender-matched healthy control subjects" for comparison, because these control subjects who had no exposure to OHA provided us the right comparison for BMD for a given age and gender. In our study[2] we found no significant difference in BMD in patients with T2DM who were receiving OHA for a period of three years or more compared to healthy control subjects. It would be unlikely that a positive association between OHA use and BMD would be evident by having diseased controls.

Regarding conditional analyses for the matched case-control study, for small numbers with many variables to be controlled, it is very unlikely that matched multivariable analysis will yield clinically meaningful results. Moreover, we could not do stratified analyses for important prognostic variable(s) due to loss of power. Further, stratified analysis has been discouraged for matched case-control studies[3]. We feel that as the simple bi-variate analysis has not shown any positive association, the conditional logistic regression is also unlikely to show any positive association.

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