

Nifedipine is one of the common calcium channel blockers (CCBs) for hypertension that induce peroxisome-proliferator-activated receptor  $\gamma$  coactivator 1- $\alpha$ , which is envisioned as a potential therapeutic target in bone disease. The findings of this retrospective cohort study suggest that patients who receive nifedipine may have a potential protective effect on osteoporosis in comparison to other CCBs.

**Introduction:** Nifedipine was one L-type dihydropyridine calcium channel blocker (CCB) that can improve bone loss. However, epidemiological studies on the association between the use of nifedipine and osteoporosis risk are limited. Thus, this study aimed to evaluate the association between the clinical use of nifedipine and the risk of osteoporosis.

**Methods:** This retrospective cohort was conducted using the National Health Insurance Research Database of Taiwan from 2000 to 2013. The study includes 1225 patients receiving nifedipine (the exposed cohort) and 4900 patients receiving other CCBs (the comparison cohort). The primary outcome was the diagnosis of osteoporosis. The hazard ratios (HRs) and 95% confidence intervals (CIs) were used to assess the association between the use of nifedipine and the risk of osteoporosis.

**Results:** Patients receiving nifedipine treatment had a reduced risk of osteoporosis as compared with those undergoing other CCB treatments (adjusted HR, 0.44; 95% CI, 0.37-0.53). Moreover, this inverse association is evident in both sexes and various age groups.

**Conclusions:** This population-based cohort study demonstrated that nifedipine may have potential protective effect on osteoporosis compared with other CCBs. The clinical implications of the present study need further investigation <sup>1)</sup>.

<sup>1)</sup>

Chang CM, Chen YC, Wu WT, Lin TK, Chou YC, Lin MH, Sun CA. Association between clinical use of nifedipine and the risk of osteoporosis: a nationwide retrospective cohort study. *Osteoporos Int.* 2023 Apr 20. doi: 10.1007/s00198-023-06756-0. Epub ahead of print. PMID: 37079024.

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