Polydrug Use in Older Adults: A Focus on Drug Combinations that Reduce Bone Density

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Background and objective

We investigated the comorbidities of individuals who were prescribed statins to identify the use of bone mineral density (BMD)-reducing drugs, examine polydrug use trends involving these drugs, and explore their relationship with osteoporosis

Methods /intervention

We analyzed claims data from the Korean National Health Insurance Service (January 2014–December 2018). We sampled 20% of 8,379,419 patients aged ≥50 years who were prescribed statins. Among them, we analyzed the data of those who were administered two or more prescriptions for 14 days or longer within 6 months of the initial date of statin prescription. Data on comorbidities and drugs that can potentially reduce BMD were obtained. Osteoporosis-related diagnoses were obtained as an outcome measure. The relationship between statins and BMD-reducing drugs was analyzed using logistic regression

Conclusions/ lessons learned

PPIs and levothyroxine should be prescribed cautiously in statin users and bone densitometry should be proactively performed considering the increased risk of osteoporosis.

RESULT

Among the 4,138 statin users aged 50 years or older, 552 were diagnosed with osteoporosis. The most common comorbidity in statin users was hypertension, followed by ischemic heart disease, diabetes mellitus, and stroke. The most frequently administered BMD-reducing drugs were proton pump inhibitors (PPIs). The osteoporosis diagnosis rate was higher in patients who were prescribed both statins and PPIs or both statins and levothyroxine than in those using only a statin

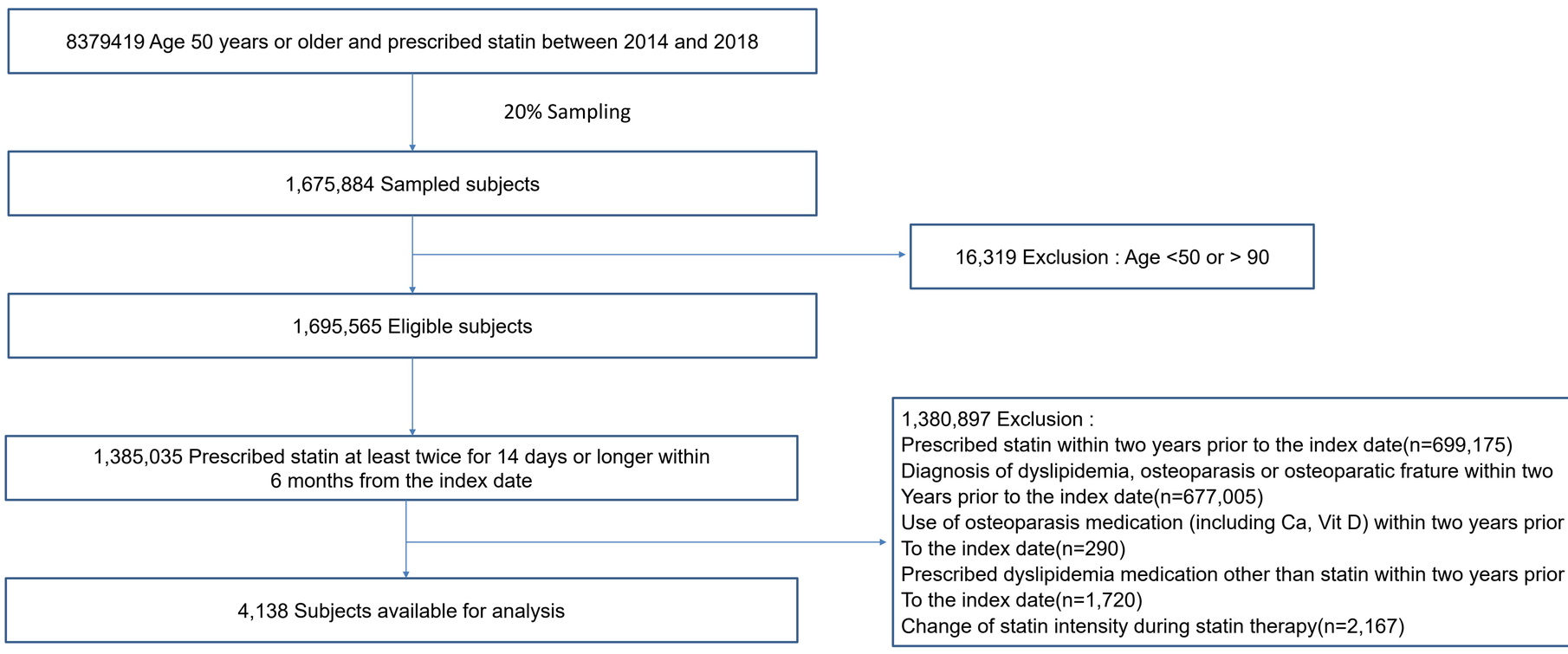

Fig1. Flow chart of study subjects

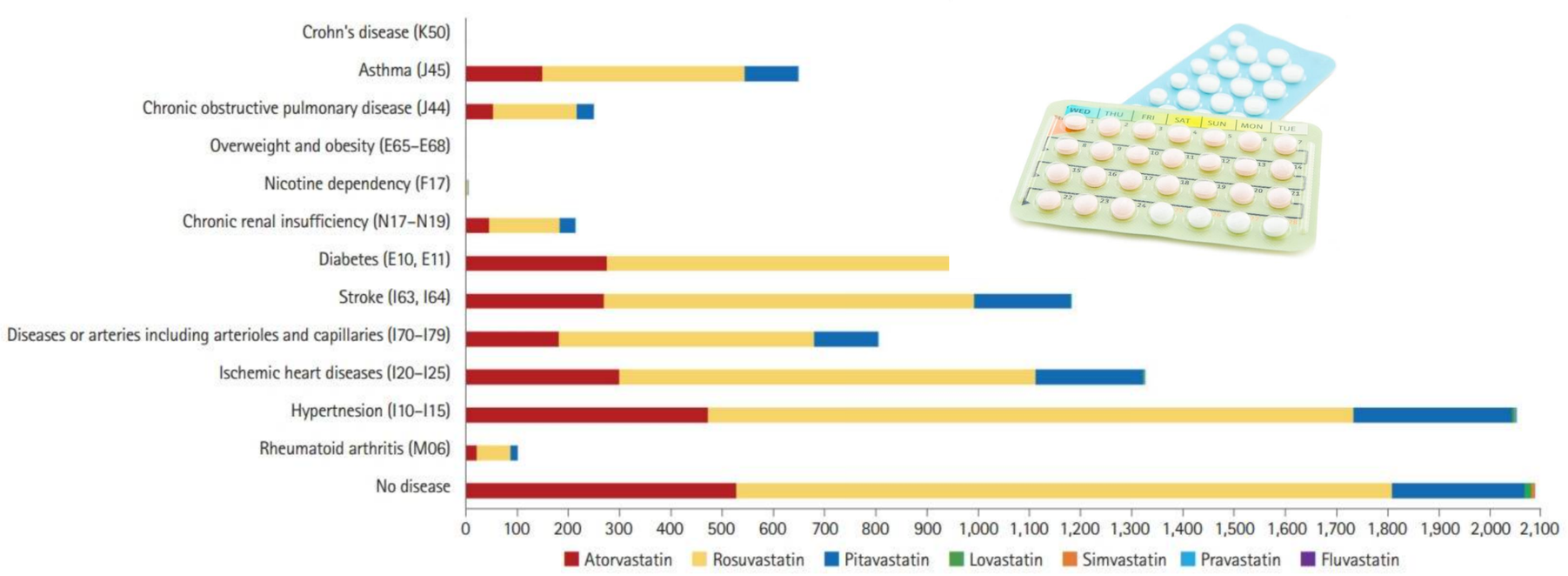

Fig2. Types of statin according to comorbidities.

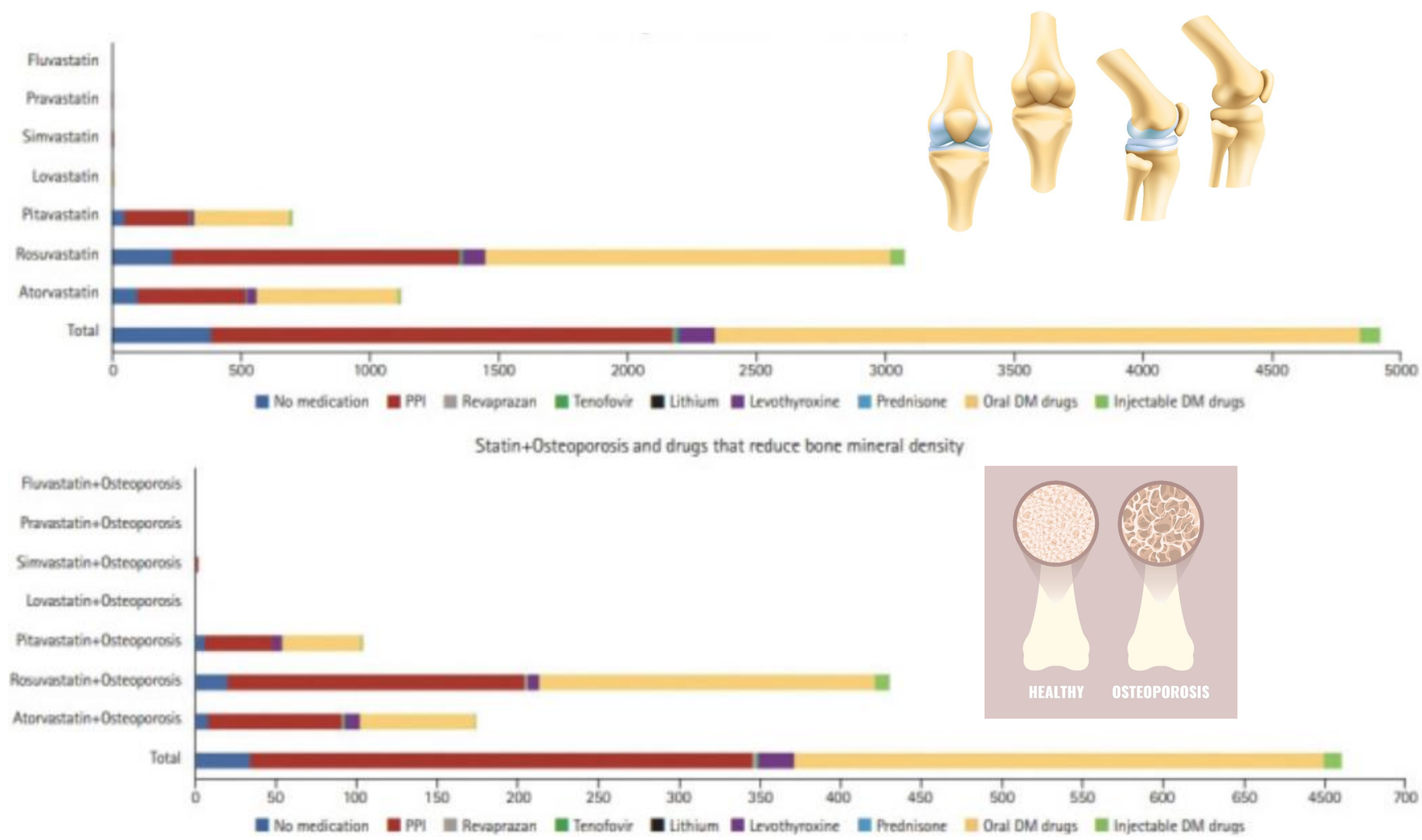

FIg3. Bone mineral density-reducing drug use among statin users and statin users with osteoporosis.

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