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Gabapentinoids and the risk of severe exacerbations in patients with chronic obstructive pulmonary disease

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Rationale: European and North American health agencies have recently warned of severe breathing problems associated with gabapentinoid use, including in patients with chronic obstructive pulmonary disease (COPD). However, there is no supporting evidence from large population-based studies. Hence, we assessed whether gabapentinoid use was associated with severe exacerbations in patients with COPD.

Methods: In this population-based cohort study, patients aged ≥ 55 with COPD between 1994-2015 were identified in healthcare databases from the Régie de l'assurance maladie du Québec in Canada. Those initiating gabapentinoids were matched 1:1 on age, sex, calendar year, and time-conditional propensity score to nonusers. We used Cox regression to estimate HRs for severe exacerbation (hospitalization for COPD) associated with gabapentinoid use, compared with nonuse.

Results: The cohort included 23,061 gabapentinoid initiators matched to 23,061 non-users (56.5% female; mean [SD] age, 74.6 [8.4] years). Overall, 6,232 severe COPD exacerbations occurred during 72,349 person-years of follow-up (incidence rate 8.6, 95% CI 8.4-8.8 per 100 person-years). Gabapentinoid use was associated with an increased risk of severe COPD exacerbation (HR 1.47, 95% CI 1.38-1.57). The association was numerically higher for gabapentin (HR 1.61, 95% CI 1.45-1.78) than for pregabalin (HR 1.43, 95% CI 1.33-1.53). Gabapentinoids were also associated with an increased risk of respiratory failure (HR 1.47, 95% CI 1.33-1.62).

Conclusions: In patients with COPD, gabapentinoid use was associated with severe COPD exacerbation, highlighting the importance of risk-benefit assessment when prescribing them in this population.
