Drug-drug interactions in patients with ischemic stroke on treatment with oral anticoagulants: population-based data

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Objectives

This study investigated pre-stroke exposure to drugs known to interact with oral anticoagulants in patients with ischemic stroke, hypothesizing that such interactions might have affected anticoagulation management.

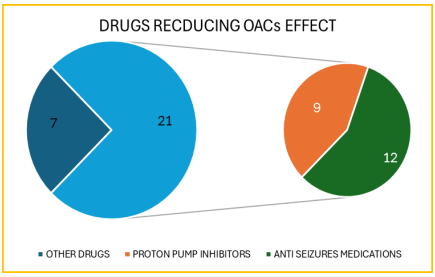
Materials and Methods

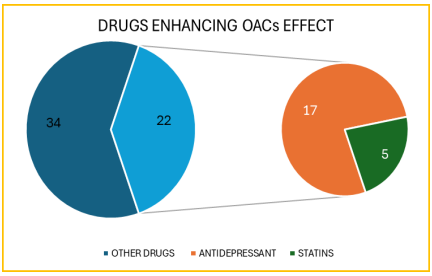
We included consecutive patients with ischemic stroke from the prospective, population-based registry of L'Aquila, Italy, which has recorded all residents with acute cerebrovascular events since 2011. For this analysis, we focused on the 2018–2022 period. Patients were identified through medical records, emergency services, general practitioners, and death certificates. All regularly taken treatments were assessed. Concomitant drugs were classified as potentially increasing or decreasing the effect of oral anticoagulants (OACs), based on official product characteristics. For patients on vitamin K antagonists (VKAs), median INR values at stroke onset were compared by category of interaction.

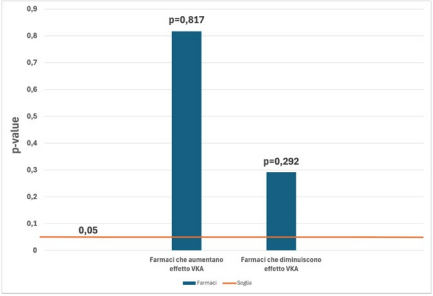
Results

Among 969 patients with ischemic stroke, 145 (15.0%) were on OACs at the time of the event; 85 (58.6%) were women, and the median age was 83 years (IQR 76–87). Of these, 93 (64.1%) were on DOACs and 52 (35.9%) on VKAs. Among anticoagulated patients, 56 (38.6%) were taking drugs that could enhance OAC effect, and 28 (19.3%) drugs that could reduce it. The most frequent drugs potentially reducing OAC effect were anti-seizure medications (12; 8.3%), and proton pump inhibitors (9; 13.8%) while those potentially increasing effect included antidepressants (17; 11.7%) and statins (5; 3.4%). Among 52 VKA users, median INR values did not significantly differ by exposure to drugs increasing (p=0.817) or decreasing (p=0.192) OAC effect.

DEMOGRAPHIC AND CLINICAL CHARACTERISTICS	
Total patients (N)	969
Patients on OACs	145
Median age (Years)	83 (IQR 76–87)
Sex (F)	85 (58.6%)







Discussion

Almost half of patients with ischemic stroke treated with OACs were on potentially interacting medications, underscoring the need for caution in managing polypharmacy in patients with vascular risk. Interestingly, several ischemic events occurred in patients taking drugs that may enhance anticoagulant effects, such as antidepressants or antiplatelets—agents usually linked to bleeding rather than thrombosis.

Conclusion

We observed a high rate of potential drug interactions in anticoagulated stroke patients, particularly among DOAC users, yet without a clear link to stroke risk. These findings highlight the complexity of anticoagulation management and suggest caution in the co-prescription of drugs potentially interacting with OACs that could affect anticoagulant activity.

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