

of DOACs alone (45.0% vs 51.2%, adjusted OR 0.90; 95% CI 0.60-1.36). However, concurrent use of pharmacodynamic interacting drugs was associated with an increased risk of major bleeding (21.6% vs 13.5%, adjusted OR, 1.91; 95% CI, 1.39-2.62). This effect was mainly driven by selective serotonin reuptake inhibitors (SSRIs, adjusted OR, 1.73; 95% CI, 1.12-2.65) and antiplatelet drugs (adjusted OR, 1.90; 95% CI, 1.23-2.93), respectively.

Conclusions: Among patients taking a DOAC, concurrent use of an SSRIs or antiplatelet drug was associated with increased risk of major bleeding compared with DOAC use without these drugs.

1020 | Abstract Withdrawn

1021 | The impact of antihypertensive drugs on serum potassium and sodium levels in patients electively admitted to a tertiary hospital

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Background: Abnormal serum potassium and sodium levels may lead to serious cardiovascular and neurological conditions.

Objectives: To investigate the association between the use of different antihypertensives and the risk of developing disturbances in potassium and sodium serum levels.

Methods: A cross-sectional study was conducted in antihypertensive users, electively admitted to the University Medical Center Utrecht between January 2013 and September 2016. Data on patient characteristics, antihypertensives, and electrolyte levels were extracted from the Utrecht Patient Oriented Database. The association between the use of different antihypertensives and the electrolyte level was studied using linear and logistic regression.

Results: A total of 6369 elective admissions were included in this study. The most frequent electrolyte disorder was hyponatremia (29.5%), followed by hypokalemia (20.5%). Hyperkalemia (3.4%) and especially hypernatremia (0.1%) were less common. In comparison with the use of monotherapy of beta-blockers, use of monotherapy of calcium antagonists (adj. OR 3.08; 95% CI 2.13, 4.46), thiazide or thiazide-like (adj. OR 2.08; 95% CI 1.14, 3.82) and loop diuretics (adj. OR 1.92; 95% CI 1.13, 3.28) was significantly associated with higher odds of hypokalemia. Most combinations of antihypertensives with thiazide or thiazide-like or loop diuretics were significantly associated with lower potassium serum levels compared with monotherapy of beta-blockers. None of the antihypertensive therapies were significantly associated with hyperkalemia. Monotherapy of potassium sparing diuretics (adj. OR 2.72; 95% CI 1.11, 6.66) and angiotensin receptor blockers (adj. OR 1.63; 95% CI 1.01, 2.63), and some of the

combinations with a thiazide or thiazide-like or loop diuretic were significantly associated with higher odds of hyponatremia.

Conclusions: Monitoring of serum potassium and sodium levels should be encouraged in patients with antihypertensive drugs especially antihypertensives inducing hyponatremia or hypokalemia to avoid possible severe consequences of abnormal serum potassium and sodium levels.

1022 | The impact of sex on the associations between ace inhibitors and cough and angioedema: A systematic review and meta-analysis

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Background: Cough and angioedema are well-known adverse effects of angiotensin-converting enzyme (ACE) inhibitors. Some observational studies in patients using ACE inhibitors have observed that women have a higher incidence of cough and angioedema than men.

Objectives: To evaluate based on randomized controlled trials (RCTs), whether the risks of developing cough and angioedema with ACE inhibitors are modified by sex.

Methods: We searched PubMed and Cochrane databases for all years to August 2016. We included RCTs that contain information about the incidence of cough and angioedema in users of ACE inhibitors and controls (active/placebo) in men and women. We performed meta-analyses using the random effects model. Pooled risk ratios (RRs) for cough and angioedema associated with ACE inhibitors in women and men were estimated and tested for interaction.

Results: We included four RCTs in our analysis (three studies for cough and two studies for angioedema). We found that there was no difference in the RR to develop cough or angioedema for ACE inhibitors versus controls between women and men. For cough in women, the RR was 3.70; 95% CI (2.55-5.35) and for men, 2.61; 95% CI (1.30-5.27) (*P* value for interaction 0.39). For angioedema, these RRs were 5.56; 95% CI (2.45-12.62) and 6.35; 95% CI (1.81-22.36), respectively (*P*-value for interaction 0.86).

Conclusions: Our meta-analyses show that the risks of developing cough and angioedema associated with ACE inhibitors are not modified by sex. However, these findings should be interpreted cautiously due to limited number of studies involved.

1023 | Risk of mouth ulcer associated with the use of nicorandil in Korea

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