

REVISIÓN BIBLIOGRÁFICA FEBRERO 2020:

REVISTAS GERIÁTRICAS

DRUGS AND AGING

Calcium Channel Blockers Co-prescribed with Loop Diuretics: A Potential Marker of Poor Prescribing?

Henry J. Woodford

Abstract

Objective

Prescribing cascades are where a drug adverse reaction is wrongly attributed to the emergence of a new condition, which leads to further drug prescribing. This promotes polypharmacy, adverse drug reactions and therapeutic burden. An example of a prescribing cascade is the co-prescribing of loop diuretics to treat the peripheral oedema caused by calcium channel blocker (CCB) drugs. Although well recognised, this is still a combination of medications taken by millions of people worldwide. CCBs have no prognostic benefit in heart failure and have an absolute risk increase for oedema of around 8–18% (number needed to harm 6–13). In the treatment of hypertension, they also increase the risk of oedema and a new diagnosis of heart failure without having any major advantages over alternative drugs. The best way to manage the oedema caused by CCBs is to switch to an alternative medication. Only where this is not possible or fails to achieve therapeutic goals would the CCB–loop diuretic combination appear to be justified. In many cases, therapeutic practice could be improved by targeting people on CCB–loop diuretic combinations for medication review. This could improve quality of life and reduce polypharmacy, adverse drug reactions, therapeutic burden and financial costs for millions of people worldwide

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Use of Medications with Anticholinergic Properties and the Long-Term Risk of Hospitalization for Falls and Fractures in the EPIC-Norfolk Longitudinal Cohort Study

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Abstract

Background

The consumption of medications with anticholinergic activity has been suggested to result in the adverse effects of mental confusion, visual disturbance, and muscle weakness, which may lead to falls. Existing published evidence linking anticholinergic drugs with falls, however, remains weak. **Objective**



This study was conducted to evaluate the relationship between anticholinergic cognitive burden (ACB) and the long-term risk of hospitalization with falls and fractures in a large population study.

Methods

The dataset comprised information from 25,639 men and women (aged 40–79 years) recruited from 1993 to 1997 from Norfolk, United Kingdom into the European Prospective Investigation into Cancer (EPIC)-Norfolk study. The time to first hospital admission with a fall with or without fracture was obtained from the National Health Service hospital information system. Cox-proportional hazards analyses were conducted to adjust for confounders and competing risks.

Results

The fall hospitalization rate was 5.8% over a median follow-up of $^{\sim}$ 19.4 years. The unadjusted incidence rate ratio for the use of any drugs with anticholinergic properties was 1.79 (95% CI 1.66–1.93). The hazard ratios (95% CI) for ACB scores of 1, 2–3, and \geq 4 compared with ACB = 0 for fall hospitalization were 1.20 (1.09–1.33), 1.42 (1.25–1.60), and 1.39 (1.21–1.60) after adjustment for age, gender, medical conditions, physical activity, and blood pressure.

Conclusions

Medications with anticholinergic activity are associated with an increased risk of subsequent hospitalization with a fall over a 19-year follow-up period. The biological mechanisms underlying the long-term risk of hospitalization with a fall or fracture following baseline ACB exposure remains unclear and requires further evaluation.

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JOURNAL OF THE AMERICAN GERIATRICS SOCIETY

Associations between Serum Levels of Cholesterol and Survival to Age 90 in Postmenopausal Women

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BACKGROUND/OBJECTIVES Although elevated lipid levels predict increased risk of coronary heart disease and death in middle-aged women and men, evidence is mixed if lipid levels measured in later life predict survival to very old ages. We examined lipid levels and survival to age 90 with or without intact mobility in a large cohort of older women.

DESIGN Prospective cohort.

SETTING Laboratory collection at a Women's Health Initiative (WHI) center and longitudinal follow-up via mail.

PARTICIPANTS Women aged 68 to 81 years at baseline



MEASUREMENTS Serum high-density lipoprotein (HDL) and low-density lipoprotein (LDL) cholesterol were collected at baseline. Participant survival status and self-reported mobility was compared across lipid levels.

RESULTS HDL and LDL levels were not associated with survival to age 90 after adjustment for cardiovascular risk factors (HDL: quartile (Q) 2: odds ratio [OR] = 1.14 [95% confidence interval [CI] = .94-1.38]; Q3 OR = 1.08 [95% CI = .88-1.33]; Q4 OR = 1.09 [95% CI = .88-1.35]; LDL: Q2 OR = 1.07 [95% CI = .88-1.31]; Q3 OR = 1.27 [95% CI = 1.04-1.55]; Q4 OR = 1.07 [95% CI = .88-1.31]). Similarly, no associations were observed between HDL and LDL levels and survival to age 90 with mobility disability. High HDL was not associated with survival to age 90 with intact mobility after adjustment for other cardiovascular risk factors. Compared with the lowest LDL quartile, the three upper LDL quartiles were associated with greater odds of survival to age 90 with intact mobility (LDL: Q2 OR = 1.31 [95% CI = .99-1.74]; Q3 OR = 1.43 [95% CI = 1.07-1.92]; Q4 OR = 1.35 [95% CI = 1.01-1.80]; P = .05).

CONCLUSIONS Neither higher HDL nor lower LDL levels predicted survival to age 90, but higher LDL predicted healthy survival. These findings suggest the need for reevaluation of healthy LDL levels in older women.

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Predictors of Hip Fracture Despite Treatment with Bisphosphonates among Frail Older Adults

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OBJECTIVES Bisphosphonates are effective at preventing hip fractures among older adults, yet many patients still fracture while on treatment and may benefit from additional preventive interventions. Little data are specifically available to target such efforts among bisphosphonate users. We aimed to identify predictors of hip fracture unique to frail older adults initiating pharmacologic treatment for osteoporosis.

DESIGN Retrospective cohort using 2008-2013 linked national Minimum Data Set assessments, Medicare claims, and nursing home (NH) facility data.

SETTING NHs in the United States.

PARTICIPANTS Long-stay NH residents 65 years or older who initiated treatment with a bisphosphonate (N = 17753). Estimates for bisphosphonate initiators were contrasted with those for calcitonin initiators (control group; N = 5348).

MEASUREMENTS Hospitalized hip fracture outcomes were measured using Part A claims. Hazard ratios (HRs) and 95% confidence intervals (Cls) were estimated for 36 a priori selected potential predictors.

RESULTS



The mean (SD) age of the study population was 84 (8) years, 85% were women, and 51% had moderate to severe cognitive impairment. Predictors associated with a higher risk of hip fracture despite bisphosphonate use included age 75 years or older to 85 years (vs \geq 65 to <75 y; HR = 1.25; 95% CI = 1.02-1.55), female sex (HR = 1.33; 95% CI = 1.06-1.67), white race (vs black race (HR = 1.87; 95% CI = 1.36-2.58), and body mass index = 18.5-24.9 (vs \geq 30; HR = 1.93; 95% CI = 1.53-2.42). Independent ability to transfer (vs total dependence; HR = 3.11; 95% CI = 1.83-5.30) and occasional urinary incontinence (vs frequent; HR = 1.45; 95% CI = 1.18-1.78) were also important predictors. Dementia, diabetes, psychoactive drug use, and other characteristics were not associated with post-prescribing hip fracture. Predictors did not differ between bisphosphonate and calcitonin users.

CONCLUSION

Predictors of hip fracture among frail older adults did not differ between those who were new users of bisphosphonates vs calcitonin. Given the absence of risk factors unique to bisphosphonate users, targeting of fracture prevention efforts should extend beyond pharmacologic therapy to include existing nonpharmacologic therapies, particularly fall prevention strategies.

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GERIATRICS AND GERONTOLOGY INTERNATIONAL

Risk factors for adverse drug reactions in older inpatients of geriatric wards at admission: Multicenter study

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To investigate the characteristics of adverse drug reactions (ADR) and their risk factors among very old patients in five geriatric wards in Japan.

Methods

A retrospective observational multicenter study was carried out to investigate factors related to ADR in older inpatients from geriatric wards of five university hospitals in Japan. Data including drugs profile and short-form comprehensive geriatric assessment were obtained from medical charts. ADR were identified from geriatrician's reports. For each ADR, symptoms and causal drugs were clarified, and factors associated with ADR were analyzed statistically.

Results

In 1155 patients (52.5% women, mean age 82.8 ± 7.0 years), the proportion with ADR was 15.4%. There was a great variety of signs and symptoms of ADR, and a great variety of drugs suspected to be the cause of ADR. On multiple logistic regression analysis, ADR was significantly associated with an increase in drugs (odds ratio 1.11, 95% CI 1.07–1.16) and emergency admission (odds ratio 2.76,



95% CI 1.82–4.15). Receiver operating characteristic curve analysis showed that the optimal cut-off number of drugs for predicting ADR was ≥7.

Conclusions

In geriatric inpatients, polypharmacy (especially ≥7 drugs) and emergency admission were associated with ADR. Because there was a great variety of ADR in the study, clinicians must consider reviewing all drugs to prevent adverse drugs reactions during admission in this vulnerable population.

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REVISTAS FARMACÉUTICAS

EUROPEAN JOURNAL OF CLINICAL PHARMACOLOGY

Comparison of drug-related problem risk assessment tools for older adults: a systematic review

Emmi Puumalainen, Marja Airaksinen, Sanni E. Jalava, Timothy F. Chen & Maarit Dimitrow **Abstract**

Background

This study aims to systematically review studies describing screening tools that assess the risk for drug-related problems (DRPs) in older adults (\geq 60 years). The focus of the review is to compare DRP risks listed in different tools and describe their development methods and validation.

Methods

The systematic search was conducted using evidence-based medicine, Medline Ovid, Scopus, and Web of Science databases from January 1, 1985, to April 7, 2016. Publications describing general DRP risk assessment tools for older adults written in English were included. Disease, therapy, and drug-specific tools were excluded. Outcome measures included an assessment tool's content, development methods, and validation assessment.

Results

The search produced 15 publications describing 11 DRP risk assessment tools. Three major categories of risks for DRPs included (1) patient or caregiver related risks; (2) pharmacotherapy-related risks; and (3) medication use process-related risks. Of all the risks included in the tools only 8 criteria appeared in at least 4 of the tools, problems remembering to take the medication being the most common (n=7). Validation assessments varied and content validation was the most commonly conducted (n=9). Reliability assessment was conducted for 6 tools, most commonly by calculating internal consistency (n=3) and inter-rater reliability (n=2).

Conclusions

The considerable variety between the contents of the tools indicates that there is no consensus on the risk factors for DRPs that should be screened in older adults taking multiple medicines. Further research is needed to improve the accuracy and timeliness of the DRP risk assessment tools.

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Use and prescription appropriateness of drugs for peptic ulcer and gastrooesophageal reflux disease in hospitalized older people

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Purpose

The aims of this study were to assess the prevalence of use and prescription appropriateness of drugs for peptic ulcer and gastrooesophageal reflux disease (GERD) at hospital admission and discharge.

Methods

Patients aged 65 years or more hospitalized from 2010 to 2016 in 101 Italian internal medicine and geriatric wards in the context of the REPOSI register were scrutinized to assess if they were prescribed with drugs for peptic ulcer and GERD at hospital admission and discharge. Appropriateness of prescription was assessed considering the presence of specific conditions (i.e., history of peptic ulcer or gastrointestinal hemorrhages, advanced age, Helicobacter Pylori) or gastro-toxic drug combinations, according to the criteria provided by the reimbursement rules of the Agenzia Italiana del Farmaco (NOTA 1 and 48).

Results

Among 4715 enrolled patients, 3899 were discharged alive. At hospital discharge, 2412 (61.9%, 95%CI: 60.3–63.4%) patients were prescribed with drugs for peptic ulcer and GERD, a 12% of increase from hospital admission. Almost half of the patients (N = 1776, 45.6%, 95%CI: 44.0–47.1%) were inappropriately prescribed or not prescribed: among the drugs for peptic ulcer and GERD users, about 60% (1444/2412) were overprescribed, and among nonusers, 22% (332/1487) were underprescribed. Among patients newly prescribed at hospital discharge, 60% (392/668) were inappropriately prescribed. The appropriateness of drugs for peptic ulcer and GERD therapy decreased by 3% from hospital admission to discharge.

Conclusions

Hospitalization missed the opportunity to improve the quality of prescription of this class of drug.

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EUROPEAN JOURNAL OF HOSPITAL PHARMACY

Anticoagulant and antiplatelet combined therapy in patients 75 years and over with atrial fibrillation: a prospective observational study assessing adherence to clinical guidelines

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Abstract

Objective According to current guidelines on atrial fibrillation (AF), the addition of an antiplatelet therapy to an anticoagulant for a stable vascular disease does not decrease the ischaemic hazard but increases the risk of bleeding. The aim of the study was to assess compliance of practices with



existing clinical guidelines concerning the use of anticoagulant-antiplatelet combined therapy in patients 75 years and over with AF.

Methods

This prospective observational study was carried out at the University Hospital of Strasbourg (France) between August 2016 and January 2017 with data collection on 1 day of every month. To be included, the patient had to be 75 years and over with AF and treated with anticoagulant-antiplatelet therapy. The population included all the patients admitted at the hospital excluding those from the Gynaecology-Obstetrics and Paediatrics departments. With regard to clinical ongoing guidelines (French, European, American and Canadian), the patients were sorted into three groups. Group 1: combined therapy in compliance with recommendations; Group 2: combined therapy debatable as to benefit-risk ratio; and Group 3: combined therapy not compliant with recommendations.

Result

Ninety-three out of 3307 patients 75 years and over received anticoagulant-antiplatelet combined therapy prior to their hospital admission. Thirty-two patients (34.4% – Group 1) had experienced an acute event and/or revascularisation within the past year. Twenty-four patients (25.8% – Group 2) had not experienced recent revascularisation and had stable coronary disease but were suffering from peripheral artery disease. Group 3 consisted of 37 patients (39.8%), none of which had experienced recent revascularisation or had unstable coronary disease. For all groups, the main dual therapy was acetylsalicylic acid + fluindione (59.1%).

Conclusion

In our study, 37 antiplatelet (39.8%) treatments could have been stopped. These results should spur prescribers into regular reassessment of combination antithrombotic therapy since it contributes to polypharmacy and increases the risk of adverse events.

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THE ANNALS OF PHARMACOTHERAPY

Is Benzodiazepine Use Associated With the Risk of Dementia and Cognitive Impairment—Not Dementia in Older Persons? The Canadian Study of Health and Aging

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Background

Abstract

The use of benzodiazepines in relation to cognitive decline remains an area of controversy in aging populations. This study aims to evaluate the risk of cognitive impairment—not dementia (CIND), Alzheimer disease (AD), and all-cause dementia with benzodiazepine use. The effect modification by sex was also investigated



Methods

Data come from the Canadian Study of Health and Aging, a 10-year multicentric study involving 10 263 participants randomly selected, 65 years and older, living in the community and in institutions. Current exposure to benzodiazepines was assessed in a face-to-face interview or self-reported in a questionnaire. Cox proportional hazard regression models, using age as time scale, were conducted to estimate hazard ratios, with adjustment for sex, education, smoking, alcohol intake, depression, physical activity, nonsteroidal anti-inflammatory drug use, and vascular comorbidities.

Results

Data sets included 5281 participants for dementia as the outcome, 5015 for AD, and 4187 for CIND. Compared with nonusers, current use of benzodiazepines was associated with an increased risk of CIND (hazard ratio = 1.36; 95% CI = 1.08-1.72) in the simplest model. Results remained similar in the fully adjusted model (hazard ratio = 1.32; 95% CI = 1.04-1.68). There was no association between benzodiazepine use and the risk of dementia or AD. All these effects were similar between men and women.

Conclusions

Benzodiazepine use in older people from the general population is related to subsequent occurrence of cognitive dysfunction but not implicated in the pathogenesis of dementia or AD. Caution should be exercised when prescribing benzodiazepines to preserve global cognitive function.

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The Fall Risk with Alpha blockers Given InitiaL dose or Elderly status (FRAGILE) Study

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Abstract

 α -1 adrenergic antagonists are commonly prescribed, but there is question regarding their safety in patients at increased fall risk. The purpose of the FRAGILE study was to determine the risk for developing adverse drug events (ADEs) in veterans prescribed α -1 blockers.

Methods

A single-center, retrospective, observational cohort analysis was conducted of veterans newly initiated on α -1 antagonists. Veterans were categorized into at-risk (patients who met at least 1 of 2 criteria: age 65 or older or high initial dose of α blockade) or control (veterans without either risk factor) groups. The primary outcome was the composite all-cause ADEs, including hospitalizations or emergency department (ED) visits. Secondary outcomes included number of fall-related ADEs and medication discontinuation rates with follow-up for 12 months.

Results

A total of 300 veterans were evaluated. There was no significant difference in the composite outcome of all-cause ED visits between at-risk (n = 169) versus control (n = 131) groups (0.81 vs 1.17, P = 0.09) or all-cause hospitalizations (0.28 vs 0.39, P = 0.25). Seventy-three veterans in the at-risk group experienced an all-cause ADE versus 64 in the control group (P = 0.36). No significant differences in secondary outcomes were found. Fall-related side effects occurred in 8% of the total cohort.

Conclusion



Rates of all-cause or fall-related ADEs were not significantly different. An 8% discontinuation rate resulting from fall-related ADEs and high rates of coadministered medications that could increase fall risk. Pharmacists can play a key role in optimizing α -1 blocker administration.

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PHARMACOEPIDEMIOLOGY AND DRUG SAFETY

Run-in periods and clinical outcomes of antipsychotics in dementia: A metaepidemiological study of placebo-controlled trials

Tessa A. Hulshof Sytse U. Zuidema Christine C. Gispen-de Wied Hendrika J. Luijendijk **Abstract**

BackgroundRun-in periods are used to identify placebo-responders and washout. Our aim was to assess the association of run-in periods with clinical outcomes of antipsychotics in dementia.

Methods

We searched randomized placebo-controlled trials of conventional and atypical antipsychotics for neuropsychiatric symptoms (NPS) in dementia in electronic sources and references of selected articles. We extracted (a) the presence of a run-in period, use of placebo/investigated drug during run-in (versus washout only), and run-in duration (1 week or more) and (b) the reduction in NPS, number of participants with somnolence, extrapyramidal symptoms (EPS), and deaths per treatment group. We pooled clinical outcomes comparing antipsychotic and placebo groups in trials with and without run-in.

Results

We identified 35 trials. Twenty-nine trials used run-in. The pooled standardized mean difference in the reduction of NPS was -0.170 (95% CI, -0.227 to -0.112) in trials with run-in and -0.142 (95% CI, -0.331 to 0.047) in trials without run-in. The pooled odds ratio for somnolence was 2.8 (95% CI, 2.3-3.5) in trials with run-in and 3.5 (95% CI, 1.2-10.7) in trials without run-in; for EPS, these ORs were 1.8 (95% CI, 1.4-2.2) and 2.0 (95% CI, 1.3-3.1) respectively, and for mortality 1.4 (95% CI, 1.0-2.0) and 1.6 (95% CI, 0.7-3.4). The use of placebo/investigated drug during run-in and run-in duration did not affect the estimates in a consistent way.

Conclusion

The use of run-in in trials might have led to overestimated efficacy and especially underestimated risks of side effects of antipsychotics compared with placebo for NPS in dementia.

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REVISTAS DE MEDICINA GENERAL



JAMDA: JOURNAL OF THE AMERICAN MEDICAL DIRECTORS ASSOCIATION

Adverse Outcomes of Polypharmacy in Older People: Systematic Review of Reviews

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Objectives

Polypharmacy is widespread among older people, but the adverse outcomes associated with it are unclear. We aim to synthesize current evidence on the adverse health, social, medicines management, and health care utilization outcomes of polypharmacy in older people.

Design

A systematic review, of systematic reviews and meta-analyses of observational studies, was conducted. Eleven bibliographic databases were searched from 1990 to February 2018. Quality was assessed using AMSTAR (A Measurement Tool to Assess Systematic Reviews)

Setting and participants

Older people in any health care setting, residential setting, or country.

Results

Twenty-six reviews reporting on 230 unique studies were included. Almost all reviews operationalized polypharmacy as medication count, and few examined medication classes or disease states within this. Evidence for an association between polypharmacy and many adverse outcomes, including adverse drug events and disability, was conflicting. The most consistent evidence was found for hospitalization and inappropriate prescribing. No research had explored polypharmacy in the very old (aged ≥85 years), or examined the potential social consequences associated with medication use, such as loneliness and isolation.

Conclusions and implications

The literature examining the adverse outcomes of polypharmacy in older people is complex, extensive, and conflicting. Until polypharmacy is operationalized in a more clinically relevant manner, the adverse outcomes associated with it will not be fully understood. Future studies should work toward this approach in the face of rising multimorbidity and population aging.

EUROPEAN JOURNAL OF INTERNAL MEDICINE

Effects of benzodiazepines on orthostatic blood pressure in older people

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Abstract Background



Older people taking benzodiazepines (BDZs) have higher risk of falling, which is mainly attributed to cognitive and psychomotor effects. BDZs may also have hypotensive effects. We investigated the association between BDZs and orthostatic blood pressure behaviour in older people.

Methods

We retrospectively analysed data from an outpatient clinic where people aged 60 or older underwent a geriatric assessment. Non-invasive beat-to-beat orthostatic systolic blood pressure (SBP) was assessed at regular time intervals before and after an active stand test. We compared clinical characteristics between BDZs users and non-users and also investigated if BDZs use was an independent predictor of baseline SBP. Factors associated with SBP change were investigated using a repeated measures general linear model.

Results

Of 538 participants (67.7% female, mean age 72.7), 33 (6.1%) reported regular BDZs use. BDZ users had lower baseline SBP (149 versus 161 mmHg, P < 0.05). Multiple linear regression confirmed BDZs use as independent predictor of baseline SBP in N = 538. At 10 s post-stand, the SBP difference between BDZs use groups became maximum (21 mmHg); at this point, SBP still seemed to be decreasing in BDZ-users, whereas in controls it seemed to be recovering. After adjustment (age, sex, hypertension, frailty, comorbidity, antihypertensives), BDZs were associated with greater SBP reduction between baseline and 10 s post-stand (P < 0.05).

Conclusion

Older people taking BDZs may have a higher risk of orthostatic hypotension, perhaps due to an exaggerated immediate BP drop. This adds to other BDZ-related falls risks. BDZs should be avoided in older people at risk of falling.

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