REVISIÓN BIBLIOGRÁFICA ENERO 2024
Selección de artículos

REVISTAS GERIÁTRICAS

BMC Geriatrics

Early postoperative neurocognitive complications in elderly patients: comparing those with and without preexisting mild cognitive impairment– a prospective study

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Abstract

Background

As societies age, increasing numbers of older adults undergo surgeries with anesthesia. Postoperative delirium (POD) and postoperative cognitive dysfunction (POCD) frequently occur in older surgical patients. Most of these patients already have preoperative mild cognitive impairment (MCI). However, the correlation between MCI and POD remains unclear. This study aimed to determine the incidence of POD in elderly patients with and without preexisting MCI.

Methods

A prospective study enrolled patients aged 60 years and above scheduled for major surgeries between December 2017 and April 2022. Preoperative MCI was determined by a Montreal Cognitive Assessment (MoCA) score between 18 and 24. POD was diagnosed using criteria from the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). POCD was characterized by a MoCA score reduction of 2 or more points from the preoperative score. The primary outcome was the incidence of POD within the first 72 h postoperatively. Secondary outcomes encompassed other postoperative complications, including POCD.

Results

The study comprised 223 elderly patients with MCI and 56 without MCI. The incidence of POD was 16.6% in the MCI group and 14.3% in the non-MCI group (P = 0.839). POCD occurred in 24.3% of MCI patients and 50% of non-MCI patients (P = 0.001). There were no significant differences in other postoperative complications between the groups. Postoperatively, the MCI group notably declined in visuospatial, attention, and orientation domains, while the non-MCI group declined in all domains except delayed recall.

Conclusions
The incidence of POD was similar in the MCI and non-MCI groups. However, the non-MCI group demonstrated a higher incidence of POCD than the MCI group. This was identified by a reduction in postoperative MoCA scores for the visuospatial, naming, attention, language, abstraction, and orientation domains. These findings underscore the importance of postoperative cognitive assessments for both elderly patients with preexisting MCI and those with previously intact cognitive functions.

Disponible en: https://doi.org/10.1186/s12877-024-04663-5

The association between sarcopenia and incident of depressive symptoms: a prospective cohort study

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Abstract
Background
Epidemiological studies have shown that sarcopenia was associated with depression among older adults. However, most of these investigations used a cross-sectional design, limiting the ability to establish a causal relation, the present study examined whether sarcopenia was associated with incident depressive symptoms.

Methods
This is a prospective cohort study with participants from the Western China Health and Aging Trends (WCHAT) study. Participants could complete anthropometric measurements and questionnaires were included. The exposure was sarcopenia, defined according to the Asian Working Group for Sarcopenia in 2019, the outcome was depressive symptoms, evaluated by GDS-15. We excluded depression and depressive symptoms at baseline and calculated the risk of incident depressive symptoms during the follow-up year.

Results
A total of 2612 participants (mean age of 62.14 ± 8.08 years) were included, of which 493 with sarcopenia. 78 (15.82%) participants with sarcopenia had onset depressive symptoms within the next year. After multivariable adjustment, sarcopenia increased the risk of depressive symptoms (RR = 1.651, 95%CI = 1.087–2.507, P = 0.0187) in overall participants. Such relationship still exists in gender and sarcopenia severity subgroups. Low muscle mass increased the risk of depressive symptoms (RR = 1.600, 95%CI = 1.150–2.228, P = 0.0053), but low muscle strength had no effect (RR = 1.250, 95%CI = 0.946–1.653, P = 0.117).

Conclusions
Sarcopenia is an independent risk factor for depressive symptoms, Precautions to early detect and targeted intervene for sarcopenia should continue to be employed in adult with sarcopenia to achieve early prevention for depression and reduce the incidence of adverse clinical outcomes.

Disponible en: https://doi.org/10.1186/s12877-023-04653-z

Adherence to commercial food thickener in patients with oropharyngeal dysphagia

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Abstract

Background

Oropharyngeal dysphagia (OD), a common symptom in the elderly, uses commercial thickener (CT) as part of its treatment. This is often accompanied of dislike and poor compliance.

Aim

Describe adherence to CT and possible differences according to dwelling location in an area of influence of approximately 400.0000 inhabitants.

Methods

Cohort prospective observational study. Randomized patients from Nutrition and Dietetic (NDU)-database (4 calls-interviews/year). Variables: Age, diagnostic, gender, dwelling/location: Home (H) / Nursing Home (NH), viscosity (nectar, honey, pudding), days with CT. Adherence measured with a questionnaire, considering implementation of treatment by combining CT use and consumption data, categorised in three groups good, moderate and poor. Change in patterns (improvement, maintenance, worsening) and non-adherence reasons.

Results

One hundred sixty-eight patients recruited with indicated viscosity: Nectar 39.7%, honey 29.3% and pudding 30.8%. Average age of 82.6 ± 11.1 years; 57.8% women (46.4% at H vs. 67% at NH, $p < 0.01$). Dwelling/location: 80 (47.6%) live at H and 88 (52.4%) at NH. Days with CT prior study were 509 ± 475.28. Implementation found in first call: good in 50%, moderate in 20.2% and poor in 29.8%. At first call, adherence parameters were more favourable in NH compared to H. However these parameters were reversed during the study period as there was an improvement at H vs. NH. Also in terms of change in patterns a significant improvement of implementation was found in patients living at H, 31.1% vs. those living at NH, 15.7%, $p < 0.05$. CT persistence throughout study was 89.7%.

Conclusions

Low adherence to CT found in our community. Telephone follow-up resulted in improved adherence, especially in the H population. Our data provides valuable insights into the variability and changes in CT adherence among patients with OD. Adherence is complex and subject to many factors and dwelling/location is one of them. This study reveals the need to approach CT treatment for OD differently in NH.

Disponible en: https://doi.org/10.1186/s12877-023-04589-4

Age and Ageing

Effects of engagement, persistence and adherence on cognitive training outcomes in older adults with and without cognitive impairment: a systematic review and meta-analysis of randomised controlled trials

Zhen Li, Hao He, Yiqi Chen, Qing Guan

Abstract

Background

Limited understanding exists regarding the influences of engagement, persistence and adherence on the efficacy of cognitive training for age-related cognitive decline and neurodegenerative cognitive impairment.

Methods

This study conducted a meta-analysis of randomised controlled trials (RCTs). We systematically searched MEDLINE, PubMed, Web of Science, Embase and CINAHL databases from 1 January 2012 to 13 June 2023, and included RCTs assessing the effects of cognitive training in older adults, both with and without cognitive impairment. Hedges' *g* with a 95% confidence interval (CI) was used to synthesise cognitive training effect sizes on various neuropsychological tests. Subgroup analyses were conducted based on variables including engagement, persistence, adherence and cognitive conditions of normal cognition, mild cognitive impairment (MCI) or neurodegenerative dementia.

Results

This meta-analysis included 55 RCTs with 4,455 participants with cognitive conditions spanning normal cognition, MCI and neurodegenerative dementia. The mean age of participants was 73.9 (range: 65.7–84.5) years. Overall, cognitive training showed a significant cross-domain effect (Hedges' $g = 0.286$, 95% CI: 0.224–0.348). Training effects are significant when engagement or persistence rates exceed 60% or when adherence rates exceed 80%. Higher levels of persistence are required to achieve significant training effects in memory, visuospatial ability and reasoning than in executive function and attention and language. Higher persistence is also required for older adults with normal cognition to achieve significant training gains compared to those with cognitive impairment.

Conclusions

This systematic review highlights the critical roles of engagement, persistence and adherence in augmenting the efficacy of cognitive training.

Disponible en: https://doi.org/10.1093/ageing/afad247

Response rates and associated factors after a multicomponent intervention in frail older adults with diabetes

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Abstract
Background

Type 2 diabetes mellitus (T2DM) and frailty are associated with functional decline in older population.

Objective

To explore the individual response to a multimodal intervention on functional performance.

Results

53.7% in the IG versus 38.0% in the UCG improved by at least 1 point in their SPPB score [OR (95% CI): 2.07 (1.43, 2.98), *P* value <0.001]. Age, SPPB score and number of frailty criteria met decreased the probability of improving the SPPB score. Factors associated with worsening were pertaining to IG (decreased), age, SPPB score and the number of frailty criteria (increased). An adherence ≥84% was needed to achieve benefits, reaching the peak in the probability of improving SPPB when this was ≥85% [OR(95%CI): 2.38 (1.29, 4.79), *P* value 0.014].

Conclusions

Factors predicting the likelihood of improvement in a multimodal programme in pre-frail and frail older adults with diabetes are age, basal SPPB score, the number of frailty criteria and adherence.

Disponible en: https://doi.org/10.1093/ageing/afad253

DRUGS AND AGING

Prevalence of and Risk Factors for Drug-Related Readmissions in Older Adults: A Systematic Review and Meta-Analysis

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Abstract

Background

Older adults are at an increased risk of drug-related problems, especially following discharge from hospital. Drug-related readmissions place a large burden on the patient and the healthcare system. However, previous studies report inconsistent results on the prevalence and associated risk factors for drug-related hospital readmissions in older adults.

Objectives

We aimed to assess the prevalence of drug-related readmissions in older adults aged 65 years and older and investigate the drug classes, preventability and risk factors most associated with these readmissions.

Methods

A systematic review and meta-analysis were undertaken to answer our objectives. A search of four databases (MEDLINE, Embase, CINAHL and Scopus) was conducted. Three authors independently performed title and abstract screening, full-text screening and data extraction of all included studies. A meta-analysis was conducted to calculate the pooled prevalence of drug-related readmissions across all studies, and a subgroup analysis was performed to explore heterogeneity among studies reporting on adverse drug reaction-related readmissions.

Results

A total of 1978 studies were identified in the initial search, of which four studies were included in the final synthesis. Three studies focused on readmissions due to adverse drug reactions and one study focused on readmissions due to drug-related problems. A pooled prevalence of 9% (95% confidence interval 2–18) was found for drug-related readmissions across all studies, and a pooled prevalence of 6% (95% confidence interval 4–10) was found for adverse drug reaction-related readmissions. Three studies explored the preventability of readmissions and 15.4–22.2% of cases were deemed preventable. The drug classes most associated with adverse drug reaction readmissions included anticoagulants, antibiotics, psychotropics and chemotherapy agents.

Polypharmacy (the use of five or more medications) and several comorbidities such as cancer, liver disease, ischaemic heart disease and peptic ulcer disease were identified as risk factors for drug-related readmissions.

Conclusions

Almost one in ten older adults discharged from hospital experienced a drug-related hospital readmission, with one fifth of these deemed preventable. Several comorbidities and the use of polypharmacy and high-risk drugs were identified as prominent risk factors for readmission. Further research is needed to explore possible causes of drug-related readmissions in older adults for a more guided approach to the development of effective medication management interventions.

Disponible en: https://doi.org/10.1007/s40266-023-01076-8

Potentially inappropriate prescribing in multimorbid and polymedicated older adults with AF: A Systematic Review and Meta-Analysis

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Abstract

Aim

Polypharmacy in multimorbid older patients with atrial fibrillation (AF) is a risk factor for potentially inappropriate prescribing (PIP). We aimed to systematically assess the evidence on the prevalence of PIP and its impact on adverse health outcomes in this patient group.

Methods

A systematic search of the published peer-reviewed literature describing the prevalence of PIP and/or its association with adverse health outcomes in multimorbid (AF plus one comorbidity) and polymedicated (≥ 2 drugs) adults ≥ 65 years was done up to March 2023. A meta-analysis of the prevalence of PIP of (direct) oral anticoagulants ((D)OACs) was conducted using a random-effects model. Leave-one-out analysis was performed with R (version 4.2.2) and RStudio (version 2022.12.0+353).

Results

Of the 12 studies included, only one reported on the prevalence of overall PIP (65%). The meta-analysis of 10 studies assessing PIP of (D)OACs produced a pooled prevalence [95% confidence interval (CI)] of 35% [30–40%], with significant heterogeneity between the included studies (I2 95%). No statistically significant association was reported in three studies between PIP of (D)OACs, cardiovascular (CV) and all-cause mortality, hospital readmission, CV hospitalisation and stroke. Reported associations between PIP and major bleeding differed, with one study demonstrating a significant association (odds ratio 2.17; 95% CI 1.14–4.12) and the other study not showing such association.

Conclusion

This systematic review highlights the scarce evidence regarding the prevalence of PIP and its association with adverse health outcomes in multimorbid older adults with AF. Large, prospective and better-designed studies are needed.

Disponible en: https://doi.org/10.1007/s40266-023-01078-6

REVISTAS FARMACÉUTICAS

British Journal of Clinical Pharmacology

Different effects of chronic omeprazole use on osteoporotic fractures rate in the elderly

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Abstract

Aims

To investigate the potential association of chronic use of omeprazole with the occurrence of osteoporotic fractures (OF) in community-dwelling elderly subjects.

Methods

The cohort consisted of community-dwelling residents aged >65 years registered with a large health maintenance organization in Israel between January 2002 and December 2016. Data were retrospectively collected from the electronic medical files on demographics, parameters known to be associated with OF, diagnoses of osteoporotic hip, wrist, and vertebral fractures, and chronic use of omeprazole (>11 prescriptions/year). Time to OF/death/end of study was calculated from the beginning of the study (2002). The risk of fractures in the chronic users of omeprazole was analyzed by multivariate Cox proportional hazard regression model.

Results

In total, 46 805 subjects were included (41% men), mean age 83.4±6.4 years, of whom 10 272 (21.9%) were chronic users of omeprazole. During 14 years of follow-up, OF were diagnosed in 414 (4.0%) omeprazole users and 1007 (2.8%) omeprazole nonusers ($p < 0.001$). In a Cox regression model adjusted for age and gender only, chronic use of omeprazole was associated with a 16% excess of OF. However, when parameters known to be associated with OF were entered into the multivariate Cox regression model, chronic use of omeprazole was not found to be an independent risk factor for OF, either overall (adjusted hazard ratio = 0.965, 95% confidence interval 0.86–1.08, P = .55) or specifically, in the ≥85 years age group (adjusted hazard ration = 0.780, 95% confidence interval 0.635–0.958, P < .05) in which an inverse correlation between omeprazole use and OF, was demonstrated.

Conclusions

Chronic use of omeprazole was not associated with the occurrence of OF in elders.

Disponible en: https://doi.org/10.1111/bcp.15847

Medication clusters at hospital discharge and risk of adverse drug events at 30 days postdischarge: A population-based cohort study of older adults

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Abstract

Aims

Certain combinations of medications can be harmful and may lead to serious adverse drug events (ADEs). Identifying potentially problematic medication clusters could help guide prescribing and/or deprescribing decisions in hospital. The aim of this study is to characterize medication prescribing patterns at hospital discharge and determine which medication clusters were associated with an increased risk of ADEs in the 30-day posthospital discharge.

Methods

All residents of the province of Ontario in Canada aged 66 years or older admitted to hospital between March 2016 and February 2017 were included. Identification of medication clusters prescribed at hospital discharge was conducted using latent class analysis. Cluster identification and categorization were based on medications dispensed up to 30-day posthospitalization. Multivariable logistic regression was used to assess the potential association between membership to a particular medication cluster and ADEs postdischarge, while also evaluating other patient characteristics.

Results

In total, 188 354 patients were included in the study cohort. Median age (interquartile range) was 77 (71–84) years, and patients had a median (IQR) (interquartile range [IQR]) of 9 (6–13) medications dispensed prior to admission. Within the study population, 6 separate clusters of dispensing patterns were identified: cardiovascular (14%), respiratory (26%), complex care needs (12%), cardiovascular and metabolic (15%), infection (10%), and surgical (24%). Overall, 12 680 (7%) patients had an ADE in the 30 days following discharge. After considering other patient characteristics, those belonging to the respiratory cluster had the highest risk of ADEs (adjusted odds ratio: 1.12, 95% confidence interval: 1.08–1.17) compared with all the other clusters, while those in the complex care needs cluster had the lowest risk (adjusted odds ratio: 0.82, 95% confidence interval: 0.77–0.87).

Conclusion

This study suggests that ADEs post hospital discharge can be linked with identifiable medication clusters. This information may help clinicians and researchers better understand patient populations that are more or less likely to benefit from peri-hospital discharge interventions aimed at reducing ADEs.

Disponible en: https://doi.org/10.1111/bcp.15872

Tools and guidelines to assess the appropriateness of medication and aid deprescribing: An umbrella review

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Abstract

Aims

The aim of this umbrella review was to identify tools and guidelines to aid the deprescribing process of potentially inappropriate medications (PIMs), evaluate development and validation methods, and describe evidence levels for medication inclusion.

Methods

Searches were conducted on MEDLINE (Ovid), Embase.com, Cochrane CDSR, CINAHL (EBSCO), Web of Science Core Collection and guideline databases from the date of inception to 7 July 2022. Following the initial search, an additional search was conducted to identify an updated versions of tools on 17 July 2023. We analysed the contents of tools and guidelines.

Results

From 23 systematic reviews and guidelines, we identified 95 tools (72 explicit, 12 mixed and 11 implicit) and nine guidelines. Most tools (83.2%) were developed to use for older persons, including 14 for those with limited life expectancy. Seven tools were for children <18 years (7.37%). Most explicit/mixed tools (78.57%) and all guidelines were validated. We found 484 PIMs and 202 medications with different appropriateness independent of disease for older persons with normal and limited life expectancy, respectively. Only two tools and eight guidelines reported the evidence level, and a quarter of medications had high-quality evidence.

Conclusions

Tools are available for a diversity of populations. There were discrepancies, with the same medication being classified as inappropriate in some tools and appropriate in others, possibly due to low-quality evidence. In particular, tools for patients with limited life expectancy were developed based on very limited evidence, and research to generate this evidence is urgently needed. Our medication lists, along with the level of evidence, could facilitate efforts to strengthen the evidence.

Disponible en: https://doi.org/10.1111/bcp.15906

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Drug Safety

European Journal of Clinical Pharmacology

Empagliflozin and colchicine in patients with reduced left ventricular ejection fraction following ST-elevation myocardial infarction: a randomized, double-blinded, three-arm parallel-group, controlled trial

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Abstract

Purpose

There is accumulating evidence regarding the potential benefits of empagliflozin in individuals with acute myocardial infarction (MI). Based on the literature, colchicine could also reduce the risk of MI and death in individuals with cardiovascular disease (CVD). However, trials investigating the effects of the combination of empagliflozin with colchicine and high-dose empagliflozin monotherapy in this setting are lacking.

Methods

In this trial, 106 non-diabetic participants with reduced left ventricular ejection fraction (LVEF) following recent ST-elevation MI were randomly assigned to empagliflozin 10 mg/day, empagliflozin 10 mg/day plus colchicine 0.5 mg twice daily, or empagliflozin 25 mg/day groups within 72 h after primary percutaneous coronary intervention (PCI). The study's primary outcomes were the changes in New York Heart Association (NYHA) functional class and high-sensitivity C-reactive protein (hs-CRP) over 12 weeks.

Results

The baseline characteristics of individuals were statistically similar between the study groups. Changes in NYHA functional class over 12 weeks were not significantly different between the study groups. hs-CRP was significantly reduced in all groups (all $P < 0.001$); however, there was no significant change between the groups over the study period. Changes in tumor necrosis factor-alpha (TNF-α), LVEF, and left ventricular end-diastolic dimension (LVEDD) during the research period did not differ significantly between groups.

Conclusion

This study showed that neither the combination treatment of empagliflozin 10 mg/day with colchicine nor the monotherapy of empagliflozin 25 mg/day was superior to empagliflozin 10 mg/day in terms of changes in clinical, inflammatory, and echocardiographic outcome parameters in patients with recent MI with reduced LVEF over 3 months. Further studies are warranted to confirm the findings.

Disponible en: https://doi.org/10.1007/s00228-023-03582-5

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European Journal of Hospital Pharmacy

The potential for deprescribing in a palliative oncology patient population: a cross-sectional study

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Abstract

Objectives

The use of preventive medication in palliative oncology patients may be inappropriate due to limited life expectancy. Deprescribing tools are available but time-consuming and not always tailored to this specific population. Our primary goal was to identify potentially inappropriate medications (PIMs) in palliative oncology patients with a life expectancy of up to 2 years using an adapted deprescribing tool. Our secondary aim was to identify patient characteristics associated with the presence of PIMs.

Methods

Oncology patients with a life expectancy of up to 2 years were included cross-sectionally. An adapted deprescribing tool was developed to identify PIMs. Logistic regression was used to identify factors associated with having PIMs.

Results

A total of 218 patients were included in this study of which 56% had at least one PIM with a population mean of 1.1 PIM per patient. Most frequently defined PIMs were antihypertensive drugs and gastric acid inhibitors. Identification of PIMs by review took an estimated 5–10 min per patient. Polypharmacy, age >65 years and inpatient/outpatient status were found to be associated with having at least one PIM.

Conclusions

Deprescribing is possible in more than half of palliative oncology patients with a life expectancy of up to 2 years. The adapted deprescribing tool used is non-time consuming and suitable for palliative oncology patients, regardless of age.

Disponible en: https://doi.org/10.1136/ejhpharm-2021-003143

Pharmacotherapy

Impact of medication intensification on 30-day hospital readmissions in a geriatric trauma population: A multicenter cohort study

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Abstract

Background

Fall-related injuries are a significant health issue that occur in 25% of older adults and account for a significant number of trauma-related hospitalizations. Although medication intensification may increase the risk of hospital readmissions in non-trauma patients, data on a geriatric trauma population are lacking.

Objective

The primary objective was to evaluate the effect of medication intensification on 30-day hospital readmissions in geriatric patients hospitalized for fall-related injuries.

Methods

This multicenter, retrospective cohort study included patients with geriatric who presented to one of three trauma centers within a large, health-system between January 1, 2018 and December 31, 2020. Patients at least 65 years old admitted with a fall-related injury were eligible for inclusion. Patients were grouped according to medication changes at discharge, which included intensified and non-intensified groups. Medication intensification included increased dose(s) or initiation of new agents. The primary outcome was the 30-day hospital readmission rate.

Results

Of the 870 patients included (median [interquartile range, IQR] age, 82 [74–89] years, 522 (60%) female, and 220 (25%) with a previous fall), there were 471 (54%) and 399 (46%) patients in the intensified and non-intensified groups, respectively. The intensified group had a higher 30-day hospital readmission rate (21% intensified vs. 16% non-intensified, p = 0.043; number needed to harm 20) based on an unweighted analysis. According to a weighted propensity score logistic regression, medication intensification was associated with higher 30-day hospital readmissions (24% [95% confidence interval [CI] 19–31%] intensified vs. 15% [95% CI 11–20%] non-intensified, p = 0.018). These results were consistent within competing risk models accounting for death (cause-specific model: hazard ratio [HR] 1.63 [95% CI 1.07–2.49], p = 0.023; Fine-Gray model: HR 1.64 [95% CI 1.07–2.50], p = 0.022).

Conclusions

In a geriatric trauma population hospitalized after a fall, intensification of medications may pose an increased risk of 30-day hospital readmission.

Disponible en: https://doi.org/10.1002/phar.2890

Pharmacoepidemiology and Drug Safety

Signal detection of adverse events associated with gabapentinoid use for chronic pain

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Introduction

Gabapentinoids (GABA) prescribing as a potential and conceivably safer substitute for opioids has substantially increased. Understanding all potential adverse drug events (ADEs) associated with GABA will guide clinical decision-making for pain management.

Methods

A 20% sample of Medicare enrollees with new chronic pain diagnoses in 2017–2018 was selected. GABA users were those with >=30 consecutive days prescription in a year without opioid prescription. Opioid users were similarly defined. The control group used neither of these drugs. Propensity score match across three groups based on demographics and comorbidity was performed. We used proportional reporting ratio (PRR), Gamma Poisson Shrinker, and tree-based scan statistic (TBSS) to detect ADEs within 3, 6, and 12 months of follow-up.

Results

Immunity disorder was detected within 3 months of follow-up by PRR compared to opioid use (PRR:2.33), and by all three methods compared to controls. Complications of transplanted organs/tissues and schizophrenia spectrum/other psychotic disorders were consistently detected by PRR and TBSS within 3 months. Skin disorders were detected by TBSS; and stroke was detected by PRR within 3 months compared to opioid use (PRR:4.74). Some malignancies were detected by PRR within 12 months. Other signals detected in GABA users were neuropathy and nerve disorders.

Conclusions

Our study identified expected and unexpected ADE signals in GABA users. Neurological signals likely related to indications for GABA use. Signals for immunity, mental/behavior, and skin disorders were found in the FDA adverse event reporting system database. Unexpected signals of stroke and cancer require further confirmatory analyses to verify.

Disponible en: https://doi.org/10.1002/pds.5685

Investigation of hepatic adverse events due to quetiapine by using the common data model

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Abstract

Purpose

Quetiapine is a drug used to treat schizophrenia, bipolar disorder, and major depressive disorder. However, it can cause mild or severe hepatic adverse events and rarely fatal liver damage. This study was aimed at investigating hepatic toxicity caused by quetiapine use by analyzing the information captured from hospital electronic health records by using the Observational Medical Outcomes Partnership common data model (CDM).

Methods

This was a retrospective observational study involving a nested case–control method. A CDM based on an electronic health record database from five hospitals between January 2009 and May 2020 was used. We analyzed the status of quetiapine use, adverse events, and hepatic impairment.

Results

The numbers of patients with non-serious and severe hepatic adverse reactions were 2566 (5.05%) and 835 (1.64%) out of 50 766 patients, respectively. After adjusting for covariates, the odds ratio of hepatic adverse events was 2.35 (95% CI: 2.03–2.72), and the odds ratio of severe hepatic adverse events was 1.76 (95% CI: 1.16–2.66).

Conclusion

Our findings suggest that quetiapine should be cautiously used, and hepatic function should be monitored in patients using quetiapine because it can cause mild or severe hepatic adverse events, complications, and in rare cases, fatal liver damage.

Disponible en: https://doi.org/10.1002/pds.5663

Journal of Clinical Pharmacy and Therapeutics

A Meta-Analysis for Comparing the Effects of Febuxostat and Allopurinol on Kidney Function in Hyperuricemia Patients Complicated with Chronic Kidney Disease

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Abstract

Background

This study was designed to assess the effects of febuxostat on the uric acid level and kidney function of hyperuricemia (HUA) patients complicated with chronic kidney disease (CKD).

Methods

A computer-based search was conducted on the China National Knowledge Infrastructure (CNKI), Wanfang, PubMed, and Web of Science databases from the inception of the databases to April 2023 to identify clinical randomized controlled trials on HUA and CKD, with comparisons between febuxostat and allopurinol as variables of interest. The meta-analysis was conducted using Stata v17.0.

Results

Eighteen studies were included in this meta-analysis, encompassing a total of 1877 patients. These patients were segregated into a control group (treated with allopurinol or placebo) consisting of 1039 individuals and an experimental group (treated with febuxostat alone or a combination of febuxostat with other therapies) comprising 838 patients. The meta-analysis revealed that patients in the experimental group, treated with febuxostat, exhibited a significantly higher estimated glomerular filtration rate (eGFR) than those in the control group treated with allopurinol (weighted mean difference (WMD): 2.897, 95% CI: 1.336 to 4.458, < 0.001). In addition, the experimental group demonstrated significantly lower levels of serum creatinine (WMD: −17.810, 95% CI: −24.147 to −11.474, < 0.001), serum uric acid (WMD: −91.891, 95% CI: −117.609 to −66.173, < 0.001), and blood urea nitrogen (WMD: −1.284, 95% CI: −1.837 to −0.731, < 0.001). However, there was no significant difference in 24-hour urinary protein quantity (WMD: −0.198, 95% CI: −0.413 to 0.016, $= 0.070$) between the two groups.

Conclusion

These findings suggest that febuxostat may offer a more beneficial therapeutic option for managing CKD in hyperuricemic patients. However, the observed heterogeneity and the limited diversity of the study population warrant cautious interpretation of these results.

Disponible en: https://doi.org/10.1155/2023/9946667

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Clinical Pharmacology & Therapeutics

Risk of Diabetic Retinopathy in Patients With Type 2 Diabetes After SGLT-2 Inhibitors: A Nationwide Population Cohort Study

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Abstract

Diabetic retinopathy (DR) accounts for 80% of cases of vision loss in patients with type 2 diabetes mellitus (T2DM). Interventional treatments are only indicated in advanced DR and are ineffective in some patients. Sodium–glucose cotransporter 2 inhibitors (SGLT2is) are used to attenuate T2DM-associated cardiovascular complications. We conducted the cohort study to investigate the effect of SGLT2is on DR development. Data (May 2016–December 2018) obtained from the Taiwan National Health Insurance Research Database were analyzed in this nationwide retrospective cohort study. After propensity score matching, a total of 31,764 patients receiving SGLT2is and another 31,764 patients receiving dipeptidyl peptidase 4 inhibitors (DPP4is) were included in this study. Multiple Cox proportional-hazards regression models were used to evaluate DR risk. Overall DR incidence among SGLT2i or DPP4i users was 10.9 or 15.6 per 10,000 patient-years, respectively. After covariate adjustment, DR (both early and late stage) risk was substantially lower in SGLT2i users (adjusted hazard ratio: 0.68, 95% confidence interval: 0.6–0.78) than in DPP4i users. DR risk appears to be considerably lower in SGLT2i users than in DPP4i users. Glycemic control measurement with HbA1C level was unavailable in this claim database.

Disponible en: https://doi.org/10.1002/cpt.3074

Clinical Therapeutics

Effectiveness of High-dose Clonazepam Versus Low-Dose Clonazepam With Cognitive Behavioral Therapy in Older Adults With Moderately Severe Insomnia: A Prospective Cohort Study

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Abstract

Purpose

To evaluate the effectiveness of high-dose clonazepam (1 mg) versus low-dose clonazepam (0.5 mg) with cognitive behavioral therapy for insomnia (CBT-i) in older adults with moderately severe insomnia.

Methods

A prospective cohort study was conducted in patients who did not respond to low-dose clonazepam for insomnia secondary to chronic medical conditions. After starting with 0.25 mg of clonazepam, their dose was increased to 0.5 mg, then to 1 mg (Group A), or to the same dose with additional CBT-i (Group B). They were followed for 24 weeks, and scores of the insomnia severity index (ISI) and subjective units of distress scale (SUDS) were recorded. Patient adverse drug reactions (ADRs) were documented and assessed for their causality. ISI and SUDS scores were considered primary outcome measures.

Findings

Between-group analysis revealed a significant decline in the mean score of ISI at week 16 ($P < 0.05$) and for SUDS at week 20 ($P < 0.05$) in group B compared to group A. Similarly, within-group analysis also revealed a statistically significant reduction of the mean score in ISI and SUDS scores at week 4 and 8 ($P < 0.05$) in both groups. ADRs occurred more frequently in group A (14%) than in group B (5%). Assessments of causality showed that the majority of cases were possible.

Implications

For individuals who were resistant to 0.5 mg of clonazepam, adding CBT-i with low-dose clonazepam is a viable alternative to increasing the dose to 1 mg.

Disponible en: https://doi.org/10.1016/j.clinthera.2023.10.010

JAMDA: Journal of the American Medical Directors Association

Challenges in Deprescribing among Older Adults in Post-Acute Care Transitions to Home

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Abstract

Objectives

Medications with a higher risk of harm or that are unlikely to be beneficial are used by nearly all older patients in home health care (HHC). The objective of this study was to understand stakeholders' perspectives on challenges in deprescribing these medications for post-acute HHC patients.

Design

Qualitative individual interviews were conducted with stakeholders involved with post-acute deprescribing.

Setting and Participant

Older HHC patients, HHC nurses, pharmacists, and primary/acute care/post-acute prescribers from 9 US states participated in individual qualitative interviews.

Results

We interviewed 9 older patients, 11 HHC nurses, 5 primary care physicians (PCP), 3 pharmacists, 1 hospitalist, and 1 post-acute nurse practitioner. Four challenges were described in post-acute deprescribing for HHC patients. First, PCPs' time constraints, the timing of patient encounters after hospital discharge, and the lack of prioritization of deprescribing make it difficult for PCPs to initiate post-acute deprescribing. Second, patients are often confused about their medications, despite the care team's efforts in educating the patients. Third, communication is challenging between HHC nurses, PCPs, specialists, and hospitalists. Fourth, the roles of HHC nurses and pharmacists are limited in care team collaboration and discussion about post-acute deprescribing.

Conclusions and Implications

Post-acute deprescribing relies on multiple parties in the care team yet it has challenges. Interventions to align the timing of deprescribing and that of post-acute care visits, prioritize deprescribing and allow clinicians more time to complete related tasks, improve medication education for patients, and ensure effective communication in the care team with synchronized electronic health record systems are needed to advance deprescribing during the transition from hospital to home.

Disponible en: https://doi.org/10.1016/j.jamda.2023.09.021

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Annals of Internal Medicine

Cumulative Incidence of Thiazide-Induced Hyponatremia A Population-Based Cohort Study

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Abstract

Background

According to drug labels, the frequency of thiazide-induced hyponatremia is unknown or uncommon to very rare (that is, <1 in 10 000 to <1 in 100), but the exact burden remains unclear.

Objective

To estimate the increase in the cumulative incidence of hyponatremia using thiazide diuretics compared with nonthiazide antihypertensive drugs in routine clinical practice.

Setting

Denmark, 1 January 2014 to 31 October 2018.

Participants

Two target trials were emulated among persons aged 40 years or older who had no recent prescription for any antihypertensive drug, had no previous hyponatremia, and were eligible for the studied antihypertensive treatments. The first target trial emulation compared new use of bendroflumethiazide (BFZ) versus a calcium-channel blocker (CCB).

The second target trial emulation compared new use of hydrochlorothiazide plus a renin–angiotensin system inhibitor (HCTZ–RASi; that is, combination pill) versus a RASi alone.

Measurements

Two-year cumulative incidences of sodium levels less than 130 mmol/L using stabilized inverse probability of treatment–weighted survival curves.

Results

The study compared 37 786 new users of BFZ with 44 963 of a CCB and 11 943 new users of HCTZ–RASi with 85 784 of a RASi. The 2-year cumulative incidences of hyponatremia were 3.83% for BFZ and 3.51% for HCTZ–RASi. The risk differences were 1.35% (95% CI, 1.04% to 1.66%) between BFZ and CCB and 1.38% (CI, 1.01% to 1.75%) between HCTZ–RASi and RASi; risk differences were higher with older age and higher comorbidity burden. The respective hazard ratios were 3.56 (CI, 2.76 to 4.60) and 4.25 (CI, 3.23 to 5.59) during the first 30 days since treatment initiation and 1.26 (CI, 1.09 to 1.46) and 1.29 (CI, 1.05 to 1.58) after 1 year.

Conclusion

Treatment initiation with thiazide diuretics suggests a more substantial excess risk for hyponatremia, particularly during the first months of treatment, than indicated by drug labeling.

Disponible en: https://doi.org/10.7326/M23-1989

European Journal of Internal Medicine

Efficacy and safety of direct oral anticoagulants vs vitamin K antagonists in patients with atrial fibrillation and end-stage renal disease on hemodialysis: A systematic review and meta-analysis

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Abstract

Background

The prevalence of atrial fibrillation (AF) in individuals with end-stage renal disease (ESRD) on chronic hemodialysis is increasing. The optimal anticoagulant choice in this population is unclear since these patients were excluded from the pivotal randomized controlled trials (RCTs) of direct oral anticoagulants (DOACs) vs. vitamin K antagonists (VKAs) in the general AF population. We aimed to assess the efficacy and safety of DOACs vs. VKAs in patients with AF and ESRD on chronic hemodialysis through a systematic review and meta-analysis of all available evidence.

Patients/Methods

We performed a systematic search in MEDLINE and Scopus for RCTs or observational studies of patients with AF and ESRD on chronic hemodialysis who were treated with DOACs or VKAs. The outcomes of interest included ischemic stroke, the composite of ischemic stroke or systemic embolism, major bleeding, gastrointestinal bleeding, minor bleeding events and all-cause mortality.

Results

Among 397 studies identified from the literature search, six studies (three RCTs and three observational studies) were included in the meta-analysis. Compared with VKA-treated patients, those treated with DOACs had similar risk of ischemic stroke (RR:0.76, 95% CI:0.41–1.41), ischemic stroke or systemic embolism (RR:0.65, 95% CI:0.38–1.10), major bleeding (RR:0.79, 95% CI:0.49–1.28) and all-cause death (RR:0.79, 95% CI:0.56–1.12). The risk of gastrointestinal bleeding was lower in DOAC- vs VKA-treated patients in three eligible observational studies (RR:0.73, 95% CI: 0.54–0.99, I2 = 79%) but this was not confirmed in two eligible RCTs (RR:0.69, 95% CI: 0.33–1.43, I2 = 0%).

Conclusions

Among AF patients with ESRD on chronic hemodialysis, the risk of ischemic stroke, ischemic stroke or systemic embolism, minor bleeding, major bleeding, and all-cause mortality is similar in patients treated with DOACs compared to VKAs. Given that the meta-analysis of RCTs on gastrointestinal bleeding did not confirm the results of the meta-analysis of the observational studies, it cannot be concluded that gastrointestinal bleeding is lower among DOAC-treated patients.

Disponible en: https://doi.org/10.1016/j.ejim.2023.08.020

Renin-angiotensin-aldosterone system inhibitors and mortality risk in elderly patients with atrial fibrillation. Insights from the nationwide START registry

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Abstract

Background

Arterial hypertension is the most common cardiovascular comorbidity in atrial fibrillation (AF). Few studies investigated management strategies of hypertension in AF.

Materials and methods

We included 5769 AF patients on oral anticoagulants from the nationwide ongoing Italian START registry. We investigated the prescription of antihypertensive drugs and mortality risk. Subgroup analyses according to sex and major cardiovascular comorbidities were performed.

Results

Mean age was 80.8 years, 46.1% were women; 80.3% of patients were hypertensive. Furosemide (30.1%) was the most frequent diuretic followed by hydrochlorothiazide (15.4%) and potassium canrenoate (7.9%). 61.1% received β-blockers: 34.2% bisoprolol, 6.2% atenolol. Additionally, 36.9% were on angiotensin converting enzyme inhibitors (ACE-I): ramipril (20.9%), enalapril (5.3%) and perindopril (2.8%); 31.7% were on angiotensin receptors blockers (ARBs): valsartan (7.6%) and irbesartan (6.4%). Amlodipine and lercanidipine were prescribed in 14.0% and 2.3%, respectively. ACE-I ($p < 0.001$), α-blockers ($p = 0.020$) and Dihydropyridines calcium channel blockers ($p = 0.004$) were more common in men, while ARBs ($p = 0.008$), thiazide diuretics ($p < 0.001$) and β-blockers ($p < 0.001$) in women.

During 22.61 ± 17.1 months, 512 patients died. Multivariable Cox regression analysis showed that ACE-I (Hazard ratio [HR] 0.758, 95% Confidence Interval [95%CI] 0.612–0.940, $p = 0.012$) and ARBs (HR 0.623, 95%CI 0.487–0.796, $p < 0.001$) inversely associated with mortality. ACE-I/ARBs inversely associated with mortality in both sexes and in patients with diabetes. This associastion was evident for ACE-I in patients with previous cardiovascular disease, and for ARBs in HF.

Conclusion

A lower mortality risk was found in AF patients on ACE-I/ARBs. Different prescription patterns of antihypertensive drugs between men and women do exist.

Disponible en: https://doi.org/10.1016/j.ejim.2023.08.019

Revista Clínica Española

Admisiones en los servicios de urgencias y costes económicos relacionados con procesos susceptibles de atención ambulatoria en adultos mayores que viven en centros residenciales

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Objetivos

Evaluar la frecuencia de las admisiones en los servicios de urgencias (ASU) por ambulatory care sensitive conditions (ACSC) y no-ACSC de personas que viven en residencias; describir y comparar sus características, y analizar los costes asociados.

Método

Este estudio multicéntrico, retrospectivo y observacional evaluó 2.444ASU de personas ≥65 años que viven en residencias en 5 servicios de urgencias de Cataluña por ACSC y no-ACSC, en 2017. Se recogieron variables sociodemográficas, estado funcional y cognitivo, e información sobre diagnóstico y hospitalización. Se evaluaron los costes relacionados con ACSC-ASU y se efectuó un análisis de sensibilidad utilizando diferentes supuestos de disminución de ingresos por ACSC.

Resultados

La media de edad de la muestra del estudio fue de 85,9 años (desviación estándar: 7,2 años). La frecuencia de ACSC-ASU y no-ACSC-ASU fue del 56,6 y el 43,4%, respectivamente. El 56,6 y el 78% presentaban dependencia severa y deterioro cognitivo, respectivamente, sin observarse diferencias entre los 2 grupos. Las 3 ACSC más frecuentes fueron caídas/traumatismos (13,8%), enfermedad pulmonar obstructiva crónica/asma (11,4%) e infección urinaria (7,4%). El coste medio por ACSC-ASU fue de 1.408,24€. Suponiendo una reducción del 60% de las ACSC-ASU, el ahorro de costes estimado sería de 1,2 millones de euros.

Conclusiones

Las admisiones en urgencias por ACSC procedentes de entornos residenciales suponen un impacto significativo tanto en la frecuencia como en los costes. La disminución de estas enfermedades mediante la aplicación de intervenciones específicas podría redirigir los costes evitados hacia la mejora del apoyo asistencial en los entornos residenciales.

Disponible en: 10.1016/j.rce.2023.09.004