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REVISIÓN BIBLIOGRÁFICA FEBRERO 2021: Selección de artículos

REVISTAS GERIÁTRICAS

Archives of Gerontology and Geriatrics

Drug interactions for elderly people with mental and behavioral disorders: a systematic scoping review

Marcela Forgerini GeovanaSchiavo Rosa Camila Lucchetta Patrícia de Carvalho Mastroianni

Abstract

Objectives

To identify drug interactions of potentially inappropriate medications and mental and behavioral disorders, according to explicit potentially inappropriate medications criteria-based tools.

Methodology

A systematic scoping review was conducted in February 2020. Study characteristics, potentially inappropriate medications, drug interactions, rationale, and therapeutic management proposed were extracted. The commercialization and potentially inappropriate medications standard as essential in Brazil and in the world were identified. Therapeutic management was proposed for the most cited potentially inappropriate medications.

Results

36 tools including 151 drug interactions, in addition to 132 potentially inappropriate medications with concerns related to six mental and behavioral disorders were identified. Cognitive impairment and dementia were the most frequently disorders reported and antipsychotics, anticholinergics, and benzodiazepines were the pharmacological classes more involved in the drug interactions. Despite the tools recommended risperidone and quetiapine when the use of antipsychotics were inevitable; levodopa + carbidopa for Parkinson's disease; and short and intermediate half-life benzodiazepines; the quality of the evidence needs to be assessed. In this review, sleep hygiene; deprescription; medication review; and clinical monitoring of adverse drug reactions are strongly recommended. In addition, to consider agomelatine, bupropion, moclobemide and melatonin as potential safer options for benzodiazepines.

Conclusion

Knowing the clinical conditions or risk morbidities associated with the use of potentially inappropriate medications and management of these medications for safer therapeutic equivalents or non-pharmacotherapeutic alternatives are relevant for patient safety.

Disponible en: https://www.sciencedirect.com/science/article/abs/pii/S0167494320302806

Utilization of potentially inappropriate medication and risk of adverse drug events among older adults with chronic renal insufficiency: a population-wide cohort study

Safoura Sheikh Rezaei, Hana Šinkovec, Alexander Schöberl, Christoph Rinner, Georg Heinze, Michael Wolzt & Walter Gall

Abstract

Background

The use of potentially inappropriate medication (PIM) in population of older adults may result in adverse drug events (ADE) already after short term exposure, especially when it is prescribed to patients with chronic kidney disease (CKD). In order to limit ADE in the treatment of older adults PIM lists have been constructed as a source of information for healthcare professionals. The aim of this study was to estimate the utilization of PIM and incidence of ADE in older adults (≥70 years) with CKD.

Methods

We conducted a retrospective population-wide cohort study including patients from Lower Austria who were 70 years or older and diagnosed with CKD in the period from 2008 to 2011. Utilization of PIM was estimated from prescriptions filled by target population. We estimated risks of hospitalization due to ADE within 30 days after incident PIM prescription and compared them to a PIM-free control group by using marginal structural models (MSM).

Results

We identified 11,547 patients (women: 50.6%, median age in 2008: 78 years) who fulfilled the inclusion criteria. In total 24.7 and 8.1% of all prescriptions from that period contained a medication with a substance listed in the EU (7)-PIM and AT-PIM list, respectively. Proton pump inhibitors and Ginkgo biloba were the most often prescribed PIMs in this population. 94.6 and 79.3% patients filled at least one EU(7)-PIM and AT-PIM prescription, respectively. Despite the relatively high utilization of PIM there was only a low incidence of clinically relevant ADE. No event type exceeded the threshold level of 1% in the analysis of risks of ADE after filling a prescription for PIM. Nevertheless, MSM analysis showed an increased risk for 11 drugs and reduced risk for 4 drugs.

Conclusions

PIM prescription was common among older adults with CKD, however, only a small number of these drugs eventually led to hospitalization due to ADE within 30 days after incident PIM was

filled. In the absence of a clinically important PIM-related increase in risk, an assessment of potential ADE severity to a PIM list by using a warning score system seems prudent.

Disponible en: https://bmcgeriatr.biomedcentral.com/articles/10.1186/s12877-021-02057-5

Development of an explicit tool assessing potentially inappropriate medication use in Hong Kong elder patients.

Huanyu Zhang, Eliza LY Wong, Eng-kiong Yeoh & Bosco HM Ma

Abstract

Background

Potentially inappropriate medication (PIM) use has adverse effects on health, particularly in elder patients. Various country-specific explicit criteria have been developed to measure the appropriateness of prescribing worldwide. However, it is difficult to apply the criteria developed from other regions to measure and guide the local prescribing practice in Hong Kong. This study aims to develop a Hong Kong-specific PIM assessing tool from previously published criteria and validate this tool using the modified Delphi method.

Methods

A disease-oriented Hong Kong-specific preliminary PIM list was developed based on nine sets of reference criteria selected from a literature review. Any medication or medication class appeared in at least two sets of the reference criteria as well as its related medical conditions were selected as PIM candidates. After examining the availability of PIM candidates by the Hong Kong Hospital Authority drug formulary, the Hong Kong-specific preliminary PIM list was validated by a two- round of modified Delphi process. Eight experts from different specialties were invited to rate the degree of inappropriateness of each PIM candidate using a five-point Likert scale. The experts were also encouraged to propose therapeutic alternatives and new PIM candidates not covered by the preliminary PIM list. The PIM candidates that the expert panel didn't reach consensus on were excluded from the final Hong Kong-specific PIM list.

Results

After two rounds of the Delphi process, eight PIM candidates remained questionable and thus were excluded from the PIM list. The final Hong Kong-specific PIM list included a total of 164 statements applicable to older adults aged 65 years or above, among which 77 were under PIMs independent of diagnoses, and 87 were under PIMs considering specific medical conditions.

Conclusions

The Hong Kong-specific PIM list can be used as a quality measure and an educational tool to improve the local prescribing quality. Further studies should validate its association with adverse health outcomes in clinical and research settings.

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REVISTAS FARMACÉUTICAS

AJHP American Journal of Health System Pharmacist

To crush or not to crush: A brief review of novel tablets and capsules prepared from nanocrystal and amorphous solid dispersion technologies

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Abstract

Purpose

To educate healthcare professionals regarding the risks of manipulating drug products formulated via nanocrystal or amorphous solid dispersion technologies.

Summary

Recent pharmaceutics innovations such as nanocrystals and amorphous solid dispersions have been used successfully to improve oral bioavailability of drugs. Over 30 drug products based on these technologies have been approved by the Food and Drug Administration, and more are in the development pipeline. While these products are similar in appearance to traditional tablets or capsules, they should not be crushed or suspended in liquid vehicles. Such manipulations can compromise the integrity of the formulation and subsequently alter the oral bioavailability. It is alarming that the majority of these products are not included in the Institute for Safe Medication Practices (ISMP) “Do Not Crush” list. A summary drug table is presented in this article to provide accurate information for pharmacists and other healthcare providers.

Conclusion

Novel formulations of tablets and capsules are being used to increase the oral bioavailability of certain drugs. Crushing these products can significantly alter product performance and clinical outcomes. We encourage ISMP to add these drug products to the Do Not Crush list due to wide use of this list throughout healthcare. In the meantime, pharmacists should be mindful of the new formulation technologies and advocate for the proper use of these drug products.

Disponible en: https://doi.org/10.1093/ajhp/zxaa412

British Journal of Clinical Pharmacology

Prevalence of adverse drug events and adverse drug reactions in hospital among older patients with dementia: A systematic review

Marissa Anne Sakiris Mouna Sawan Sarah Nicole Hilmer Rebecca Awadalla Danijela Gnjidic

Abstract

Aims

This systematic review aimed to quantify the prevalence of adverse drug events (ADEs) and adverse drug reactions (ADRs) in older inpatients with dementia.

Methods

A systematic search of observational studies was performed in Embase, Medline, PsycINFO, International Pharmaceutical Abstracts, Scopus and Informit. Articles published in English that reported the prevalence of ADEs or ADRs in hospital patients aged 65 years or older with dementia were included. Two authors reviewed titles and abstracts and all eligible full-text articles. Relevant information relating to ADEs, ADRs and dementia was obtained from each article.

Results

In total, 5 articles were included. One study reported the prevalence of ADEs to be 81.5%, defined using the Naranjo algorithm. Four studies assessed the prevalence of ADRs, ranging from 12.7 to 24.0%, assessed using various methods. One study defined ADRs according to the World Health Organization-Uppsala Monitoring Centre criteria, 2 studies employed the World Health Organization definition and 1 study did not explicitly define ADRs. The most frequently reported drug classes implicated in ADEs and ADRs were psychotropic, antihypertensive and analgesic drugs.

Conclusion

Our findings suggest a high prevalence of ADEs and ADRs in older inpatients with dementia. However, only 1 study documented ADEs and there was variability in approaches to ADR assessment. A greater understanding of ADEs and ADRs, as well as tailored assessment tools, will promote prevention of ADEs and ADRs in people with dementia.

Disponible en: https://bpspubs.onlinelibrary.wiley.com/doi/10.1111/bcp.14417

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European Journal of Clinical Pharmacology

Benefits and adverse effects of ACE inhibitors in patients with heart failure with reduced ejection fraction: a systematic review and meta-analysis

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Abstract

Purpose

Angiotensin-converting enzyme (ACE) inhibitors are part of first-line treatment for reduced ejection fraction heart failure (HFrEF). The aim was to assess the benefits and adverse effects of ACE inhibitors in HFrEF with a focus on important patient outcomes.

Methods

A systematic review of double-blind randomized clinical trials (RCTs) and comparison of ACE inhibitors versus placebo, in HFrEF patients published in French or English. Searches were undertaken of Medline, Cochrane Central, and Embase. The primary outcomes were all-cause mortality and adverse events.

Results

From 636 articles analysed, 11 were included (13,882 patients). For all-cause mortality (5 RCTs, 9277 patients), the number needed to treat (NNT) to avoid one death at 6 months was 50 (33–107). The NNT to prevent one death at 12 months (6 RCTs, 13,016 patients) was 63 (35–314). Under the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach, the evidence was of moderate quality. The number needed to harm was 12 (10–15) for cough, 20 (14–31) for hypotension, 23 (17–36) for dizziness, 31 (23–47) for hyperkalaemia, and 49 (30–121) for increased creatinine levels. The quality of evidence was moderate for these criteria except for cough (low quality of evidence).

Conclusion

This review focuses on clinical elements necessary in a shared decision-making process. In practice, general practitioners will be able to use these data to discuss ACE inhibitor treatment with HFrEF patients. This study was registered in the PROSPERO registry under the reference number CRD42018096930.

Disponible en: https://link.springer.com/article/10.1007/s00228-020-03018-4

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Potentially inappropriate medication in older psychiatric patients

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Abstract

Purpose

Many psychotropic drugs are listed as potentially inappropriate medication (PIM) in the older population. Potentially inappropriate means that prescription of those drugs in older adults may cause significant harm. The objective of this study was to analyze the prevalence and sort of PIM prescribing in a naturalistic, real-world psychiatric setting.

Methods

The retrospective analysis gathered data from a large pharmacovigilance study, conducted at 10 psychiatric hospitals. Data from inpatients aged ≥ 65 years were included for the analysis. The number and sort of PIM, as defined by the German PRISCUS list, were controlled by analyzing the patients' medication profile.

Results

In total, 4760 patient cases (59.2% female) with a mean (mean ± standard deviation (SD)) age of 77.33 ± 7.77 years were included into the study. Altogether, 1615 cases (33.9%) received at least 1 PRISCUS-PIM per day (regular and as-needed medication included). The most frequently prescribed PRISCUS-PIM (n = 2144) were zopiclone > 3.75 mg/day (n = 310), lorazepam > 2 mg/day (n = 269), haloperidol > 2 mg/day (n = 252), and diazepam (n = 182). Cases with PRISCUS-PIM were younger (75.7 vs. 78.2 years, $p < 0.001$) and had a longer (26 vs. 22 days, $p < 0.001$) hospital length of stay. Replacing benzodiazepines and z-substances, haloperidol > 2 mg, tricyclic antidepressants, first generation antihistaminergic drugs, and clonidine by non-PIM could reduce 69.9% of PRISCUS-PIM-prescribing.

Conclusions

The prevalence of PRISCUS-PIM is high in the hospitalized psychiatric setting. Rational deprescribing of inappropriate anticholinergics, benzodiazepines, and antipsychotics in the older population is a key component to reduce the risk of adverse drug reactions. More tolerable medications should be prescribed.

Disponible en: https://link.springer.com/article/10.1007/s00228-020-03012-w

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European Journal of Hospital Pharmacy

A cross-sectional study of psychotropic drug use in the elderly: Consuming patterns, risk factors and potentially inappropriate use.

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Abstract

Objectives

The aims of the present study were: (1) to describe psychotropic drug consumption patterns in an outpatient population aged 65 years and older; (2) to determine the impact of a number of demographic and clinical factors on psychotropic consumption; and (3) to determine the ratio of potentially inappropriate psychotropic agents prescribed to the above population.

Methods

Cross-sectional, observational study of outpatients aged 65 years and older. Data on sociodemographic and clinical variables were collected. Psychotropic drugs were classified into three categories: anxiolytics-hypnotics, antidepressants, and antipsychotics. To determine the risk factors for psychotropic drug use among these patients, a multivariate logistic regression model was developed and subsequently validated using bootstrap resampling techniques. To identify the psychotropic drugs to be avoided, a review of treatments received by the patients was performed based on the 2015 version of the Beers criteria.

Results

The study included 225 outpatients of whom 30.7% were on psychotropic drugs for chronic treatment. The highest likelihood of psychotropic utilisation corresponded to the following profile: female, living in a nursing home, having two or more prescribing physicians, and having received six or more different diagnoses. According to Beers criteria, 51 patients (22.7% of the sample and 73.9% of patients on psychotropic drugs) had been prescribed at least one potentially inappropriate psychotropic drug.

Conclusion

Elderly patients commonly use psychotropic medications and are the most vulnerable to the adverse effects of these drugs. It is necessary to re-evaluate the pertinence and accuracy of these medical prescriptions.

Disponible en: http://dx.doi.org/10.1136/ejhpharm-2019-001927

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The Annals of Pharmacotherapy

Safety of Intravenous Bisphosphonates for the Treatment of Hypercalcemia in Patients With Preexisting Renal Dysfunction

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Background

Although intravenous (IV) bisphosphonates are first-line medications for the management of hypercalcemia, studies examining their use in patients with preexisting renal dysfunction are limited.

Objective

The objective of this study is to describe the safety and efficacy of pamidronate and zoledronic acid in the treatment of hypercalcemia in patients with baseline renal dysfunction.

Methods

A retrospective analysis was conducted of IV pamidronate and zoledronic acid in adult patients with hypercalcemia and creatinine clearance (CrCl) <60 mL/min. The primary endpoint was incidence of all-grade serum creatinine (SCr) elevations. Secondary endpoints included refractory hypercalcemia, hypocalcemia, osteonecrosis of the jaw (ONJ), corrected serum calcium (CSC) decrease ≥1.0 mg/dL by day 7 of bisphosphonate administration, and normalization of CSC ≤10.5 mg/dL by days 10 and 30.

Results

A total of 113 patients were included (n = 55 pamidronate, n = 58 zoledronic acid). The primary endpoint of all-grade SCr elevation occurred in 28 (24.8%) patients. Grades 3/4 SCr elevations occurred in 10.9% of patients treated with pamidronate and 1.7% of patients receiving zoledronic acid. Approximately 16% and 14% of patients developed grades 1 and 2 hypocalcemia, respectively, and there were no cases of ONJ. Overall, 64.6% of patients achieved normalization of CSC by day 10, and there were no statistical differences between bisphosphonate type and renal function.

Conclusions and Relevance

The analysis suggests an association between IV bisphosphonates and increased rates of SCr elevations among patients with preexisting renal dysfunction. Future prospective studies are necessary to elucidate these findings.

Disponible en: https://journals.sagepub.com/doi/abs/10.1177/1060028020953501

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REVISTAS MEDICINA GENERAL

Annals of Internal Medicine

The Effects of Four Doses of Vitamin D Supplements on Falls in Older Adults

Lawrence J. Appel, MD, MPH, Erin D. Michos, MD, MHS, Christine M. Mitchell, ScM

Background:

Vitamin D supplementation may prevent falls in older persons, but evidence is inconsistent, possibly because of dosage differences.

Objective:

To compare the effects of 4 doses of vitamin D3 supplements on falls.

Design:

2-stage Bayesian, response-adaptive, randomized trial. (ClinicalTrials.gov: NCT02166333)

Setting:

2 community-based research units.

Participants:

688 participants, aged 70 years and older, with elevated fall risk and a serum 25-hydroxyvitamin D [25-(OH)D] level of 25 to 72.5 nmol/L.

Intervention:

200 (control), 1000, 2000, or 4000 IU of vitamin D3 per day. During the dose-finding stage, participants were randomly assigned to 1 of the 4 vitamin D3 doses, and the best noncontrol dose for preventing falls was determined. After dose finding, participants previously assigned to receive noncontrol doses received the best dose, and new enrollees were randomly assigned to receive 200 IU/d or the best dose.

Measurements:

Time to first fall or death over 2 years (primary outcome).

Results:

During the dose-finding stage, the primary outcome rates were higher for the 2000- and 4000- IU/d doses than for the 1000-IU/d dose, which was selected as the best dose (posterior probability of being best, 0.90). In the confirmatory stage, event rates were not significantly different between participants with experience receiving the best dose (events and observation time limited to the period they were receiving 1000 IU/d; n = 308) and those randomly assigned to receive 200 IU/d (n = 339) (hazard ratio [HR], 0.94 [95% CI, 0.76 to 1.15]; P = 0.54). Analysis of falls with adverse outcomes suggested greater risk in the experience-with-best-dose group versus the 200-IU/d group (serious fall: HR, 1.87 [CI, 1.03 to 3.41]; fall with hospitalization: HR, 2.48 [CI, 1.13 to 5.46]).

Limitations:

The control group received 200 IU of vitamin D3 per day, not a placebo. Dose finding ended before the prespecified thresholds for dose suspension and dose selection were reached.

Conclusion:

In older persons with elevated fall risk and low serum 25-(OH)D levels, vitamin D3 supplementation at doses of 1000 IU/d or higher did not prevent falls compared with 200
IU/d. Several analyses raised safety concerns about vitamin D3 doses of 1000 IU/d or higher.

Disponible en: https://doi.org/10.7326/M20-3812