Prioritizing medication review for older individuals: A real-world data study using administrative databases

Andrea Rossi[1,2], Elena Olmastroni[1,2], Federica Galimberti[2], Manuela Casula[1,2], Maurizio Sessa[3]

[1] Epidemiology and Preventive Pharmacology Service (SEFAP), Department of Pharmacological and Biomolecular Sciences (DiSFeB), University of Milan, Italy
[2] IRCCS MultiMedica, Sesto San Giovanni, Milan, Italy
[3] Department of Drug Design and Pharmacology, University of Copenhagen, Denmark
https://doi.org/10.56095/eaj.v4i1.100
Andrea Rossi: andrea.rossi1@unimi.it

Aim: Optimizing drug treatments in older individuals is essential for improving health outcomes and reducing drug-related issues. However, targeting older adults for interventions is challenging and tools to identify and prioritize individuals with potentially inappropriate medications (PIMs) are lacking. This study aims to develop a prioritization algorithm for medication review, with a proof-of-concept established using Italian administrative data, and to assess the association between PIMs and all-cause hospitalization.
Methods: Eight indicators were selected:
1) medications that should be avoid in elderly,
2) drugs linked to fall risk or orthostatic hypotension,
3) drug-drug interactions,
4) Anticholinergic Cognitive Burden,
5) Sedative Load,
6) therapeutic duplicates,
7) polytherapy,
8) drugs with higher risk of adverse drug reactions.
This study focused on the first indicator. Administrative healthcare data from Local Health Units (LHUs) in Lombardy were used to identify over 65 individuals who redeemed a PIM between 2015 and 2018, with index date defined as the first PIM redemption. Risk-set matching was used to select controls, adjusted for high-dimensional propensity scores (HDPS) logistic regression models were used to assess the odds of all-cause hospitalization within 90 days.
Results: A total of 499,511 over 65 adults across the LHUs were evaluated. Between 27.4% and 37.7% individuals were exposed to at least one PIM with higher prevalence in adults aged 65-74 years and women. After matching, 128,063 pairs were analyzed. Hospitalization rates were higher among exposed individuals (8.3-10.2%) compared to controls (5.1-6.0%). Multivariate regression showed a 55% increased risk of hospitalization for those exposed to PIMs (OR 1.55, 95% CI 1.48-1.62).
Conclusions: This proof-of-concept study made it possible to develop an analytical model, which will be implemented for the other indicators. The strength of the association between each indicator and the risk of hospitalisation will be used as a weight in the construction of the prioritisation algorithm.

Cardiovascular risk stratification in patients with inflammatory bowel disease: The role of non-invasive imaging techniques and traditional risk scores

Arianna Toscano[1], Giuseppe Blando[1], Laura Patanè[2], Angela Messineo[1], Sabina Verachtert[1], Maria Cinquegrani[1], Anna Viola[2], Carmela Morace[1], Federica Bellone[1], Giuseppe Costanino[2], Marco Muscianisi[2], Giovanni Squadrito[1], Walter Fries[2], Giuseppe Mandraffino[1]

[1] Internal Medicine Unit, Department of Clinical and Experimental Medicine Lipid Center, University of Messina, Italy
[2] Gastroenterology and Chronic Bowel Diseases Unit, Department of Clinical and Experimental Medicine, University of Messina, Italy
https://doi.org/10.56095/eaj.v4i1.102
Arianna Toscano: arianna.toscano13@gmail.com

Background: Patients with chronic inflammatory diseases, including inflammatory bowel diseases (IBD), have a 20% increased risk for atherosclerotic cardiovascular disease (ASCVD) and death as compared to non-inflamed subjects. A more in-depth screening of patients has become important with the EMA warning for JAK-inhibitors. The current validated cardiovascular risk (CVR) stratification algorithms are based on traditional risk factors, not taking into account the contribution of chronic inflammation.
Aim of the study: Our study aimed to stratify the CV risk of IBD patients using validated scores (SCORE2/SCORE2-OP/SCORE- 2Diabetes) and performing carotid ultrasonography to identify subclinical atherosclerosis.
Materials and methods: Data from 120 consecutive IBD patients [Ulcerative Colitis(UC): 67; Crohn's disease(CD):53] aged ≥40 years under care in the IBD Unit of the University Hospital of Messina (April-to-July 2024) were collected. We recorded data on age, gender, region of origin, body mass index, smoking history, family, personal and pharmacological history, blood pressure values, biochemistry (creatinine, fasting glucose, glycated hemoglobin, total cholesterol, HDL-cholesterol, triglycerides). LDL-C/non-HDL-C were thus calculated. Additional IBD-related parameters potentially associated with an increased CVR were investigated (i.e., disease activity, current therapies, duration of disease, and extraintestinal manifestations).
Results: Based on their medical history, 48% of patients were classified as at intermediate CVR, 34% as high CVR, and 18% as very high CVR. Carotid ultrasound detected subclinical atherosclerosis in 48.3% of patients. CV risk reclassification occurred in 21%, increasing the proportion of patients with high/very-high risk from 50% to 71%. Active disease (p=0.047) and concomitant spondyloarthropathies (p=0.03) were identified as additional risk factors.
Conclusions: Our findings demonstrate that carotid ultrasonography significantly reclassifies CV risk, revealing that traditional risk scores underestimate CV risk in IBD patients. Tailored CV risk stratification, incorporating chronic inflammation, is crucial before initiating therapies like JAK-inhibitors to minimize side effects, including CV complications. Active intestinal disease and spondyloarthritis further exacerbate CV risk, underscoring the need for integrated screening and management strategies in this population.