

Demographic Group Faces a Higher Risk of Cardiovascular Diseases

Olivier Muller*

Department of Cardiology, University Hospital of Lausanne, Lausanne, Switzerland

Abstract

The global population is aging rapidly, and the number of octogenarians is steadily increasing. With aging, the risk of cardiovascular diseases also rises. As a result, many octogenarians require multiple medications to manage their cardiovascular health. This situation often leads to polypharmacy, which is the concurrent use of multiple medications by a single individual. While polypharmacy can be necessary for managing complex health conditions, it also poses challenges, including drug interactions, adverse effects and potential impacts on prognosis. In this article, we will explore the prognostic impact of cardiovascular polypharmacy on octogenarians, examining the complexities, potential benefits, and risks associated with managing multiple medications in this vulnerable population. The world's population is experiencing a demographic shift, with a growing proportion of individuals living well into their 80s and beyond.

Keywords: Octogenarians • Demographic group • Arrhythmia • Antihypertensives

Introduction

Octogenarians represent a unique and expanding demographic group that faces a higher risk of cardiovascular diseases due to the cumulative effects of aging, genetics, and lifestyle factors. High blood pressure is prevalent among octogenarians and requires effective management to reduce the risk of stroke, heart attack and other complications. Age-related atherosclerosis can lead to CAD, potentially necessitating medications to manage angina, prevent blood clots, and control cholesterol levels. Age-related changes in heart structure and function can lead to heart failure, which often requires a combination of medications to optimize cardiac function and reduce symptoms. AF, a common arrhythmia, becomes more prevalent with age and may require anticoagulant and antiarrhythmic medications. Octogenarians may have diabetes, necessitating medications to control blood glucose levels. The risk of stroke increases with age, and medications such as anticoagulants or antiplatelet agents may be prescribed for prevention. PAD can result in leg pain and impaired circulation, often requiring medications to improve blood flow and reduce symptoms. Polypharmacy is a common phenomenon in octogenarians, particularly those with multiple chronic conditions. Managing cardiovascular health in this population often involves a combination of medications to address various risk factors and diseases. Polypharmacy can include cardiovascular drugs such as antihypertensives, antiplatelet agents, statins, beta-blockers, angiotensin-converting enzyme inhibitors, angiotensin receptor blockers, diuretics, and medications for rhythm control, among others. When multiple medications are used concurrently, the risk of drug-drug interactions increases. These interactions can lead to adverse effects or reduced drug efficacy. Managing multiple medications can be challenging for octogenarians, particularly those with cognitive impairments or physical limitations. The complexity of managing multiple medications can be overwhelming for patients and their caregivers, affecting the overall quality of life [1].

***Address for Correspondence:** Olivier Muller, Department of Cardiology, University Hospital of Lausanne, Lausanne, Switzerland, E-mail: Oliviermuller7@gmail.com

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Literature Review

The prognostic impact of cardiovascular polypharmacy on octogenarians is a subject of clinical importance and ongoing research. Cardiovascular polypharmacy can be effective in reducing the risk of cardiovascular events such as heart attacks, strokes, and hospitalizations for heart failure. Medications like statins, antiplatelet agents, and antihypertensives have demonstrated benefits in preventing these events. Tailoring the medication regimen to the specific needs of each octogenarian is essential. Individualized treatment plans consider the patient's comorbidities, preferences, and overall health status. Overmedication, or overtreatment, can occur when patients receive more medications than necessary. This can increase the risk of adverse effects and drug interactions without providing additional clinical benefit. Some medications used in cardiovascular polypharmacy, such as antihypertensives and antiplatelet agents, can increase the risk of falls and fractures in older adults. Polypharmacy-related adverse effects can lead to hospital admissions, which can be particularly challenging for octogenarians, as hospital stays can lead to functional decline. Managing cardiovascular polypharmacy in octogenarians requires a balanced approach that maximizes benefits while minimizing risks and treatment burden. Regular medication reviews with healthcare providers can help identify redundant or unnecessary medications and reduce polypharmacy. Whenever possible, simplify medication regimens by using combination pills or once-daily dosing to improve adherence. Provide clear and simple instructions to patients and caregivers to enhance understanding and adherence to treatment plans. Engage patients in shared decision-making regarding their treatment plans, taking into account their goals and preferences [2].

Discussion

Continuously monitor patients for medication side effects, adherence, and changes in clinical status. Consider deprescribing, which is the intentional process of discontinuing medications that may no longer be necessary or beneficial, in consultation with healthcare providers. Perform a comprehensive geriatric assessment to evaluate overall health, functional status, and cognitive function to guide treatment decisions. Managing cardiovascular health in octogenarians often involves the use of multiple medications due to the high prevalence of cardiovascular diseases and risk factors in this population. While cardiovascular polypharmacy can improve outcomes and reduce the risk of adverse cardiovascular events, it also presents challenges related to drug interactions, adverse effects, and treatment burden. Healthcare providers must adopt a patient-centered approach, individualizing treatment plans,

conducting medication reviews, simplifying regimens, and engaging in shared decision-making to optimize cardiovascular polypharmacy for octogenarians. Balancing the potential benefits and risks of multiple medications is essential to enhance the overall well-being and prognosis of this growing demographic group. The growing population of octogenarians presents unique challenges for healthcare providers, especially in the management of cardiovascular diseases. Many octogenarians suffer from multiple comorbidities and, consequently, often require polypharmacy the concurrent use of multiple medications. Cardiovascular polypharmacy, which involves the use of numerous cardiovascular medications, is common in this population due to the high prevalence of cardiovascular conditions among older adults. While these medications can be essential for managing cardiovascular health, they also raise concerns about polypharmacy-related adverse effects, drug interactions, and overall prognosis [3].

In this article, we will explore the prognostic impact of cardiovascular polypharmacy on octogenarians, examining its potential benefits, risks, and implications for clinical practice. Octogenarians often face an increased burden of cardiovascular conditions, including hypertension, coronary artery disease, heart failure, atrial fibrillation, and valvular heart disease. These conditions can significantly impact their quality of life and overall prognosis. The management of cardiovascular health in this age group requires a delicate balance between achieving therapeutic goals and minimizing treatment-related risks. Cardiovascular polypharmacy refers to the prescription of multiple cardiovascular medications to a single individual. Drugs used to lower blood pressure, such as beta-blockers, ACE inhibitors, and calcium channel blockers. Medications like aspirin and clopidogrel prescribed to prevent blood clot formation. Cholesterol-lowering drugs that reduce the risk of atherosclerosis and cardiovascular events. Drugs that manage irregular heart rhythms, particularly atrial fibrillation. Medications like ACE inhibitors, angiotensin receptor blockers beta-blockers, and diuretics, which are crucial for managing heart failure. Medications such as warfarin or direct oral anticoagulants prescribed to prevent thromboembolic events. The prevalence of cardiovascular polypharmacy is high among octogenarians due to the complexity of their medical conditions. However, this practice can raise concerns about medication safety, adherence, and the potential for adverse effects and interactions [4].

Cardiovascular polypharmacy is not without its merits, especially in older adults who are at a higher risk of cardiovascular events. Some potential benefits. Multiple medications targeting different aspects of cardiovascular health can effectively reduce the risk of heart attacks, strokes, and other cardiovascular events. Octogenarians often have multiple comorbidities, such as diabetes, hyperlipidemia, and hypertension. Polypharmacy allows for the simultaneous management of these conditions, promoting overall health. Medications like diuretics and beta-blockers can alleviate symptoms associated with heart failure, improving patients' quality of life. Medications such as ACE inhibitors and ARBs can slow the progression of heart failure and reduce the risk of hospitalization. Anticoagulants and antiarrhythmics are essential for preventing strokes and managing irregular heart rhythms in octogenarians with atrial fibrillation. Risks and Challenges of Cardiovascular Polypharmacy in Octogenarians. Each medication has its own set of potential adverse effects, which can be exacerbated when multiple drugs are taken simultaneously. Common side effects include fatigue, dizziness, gastrointestinal issues, and muscle pain. The risk of drug interactions increases with polypharmacy, potentially leading to reduced medication efficacy or increased toxicity. For instance, some cardiovascular medications may interact with anticoagulants, affecting their antithrombotic effects. Managing a complex medication regimen can be challenging for octogenarians, leading to nonadherence and suboptimal treatment outcomes. Older adults are at risk of frailty, and some cardiovascular medications may contribute to frailty-related issues, such as falls and muscle weakness [5].

Some medications, particularly anticholinergic drugs, have been associated with cognitive impairment, which can be particularly concerning in older adults. In some cases, the use of multiple medications may not always lead to better outcomes and could contribute to the phenomenon known as the "polypharmacy paradox," where the burden of medications outweighs

the potential benefits. Balancing the benefits and risks of cardiovascular polypharmacy in octogenarians requires a patient-centered approach. Healthcare providers should consider the following factors when making treatment decisions. Engage in shared decision-making with patients to align treatment plans with their individual goals and preferences, taking into account their values and quality of life priorities. Conduct periodic medication reviews to assess the continued appropriateness of each medication, ensuring that the benefits outweigh the risks. Monitor medication adherence, drug interactions, and potential side effects through regular follow-up visits. Whenever possible, simplify medication regimens by reducing duplicative or nonessential medications. Evaluate frailty and cognitive function when prescribing medications, and be cautious with drugs that may exacerbate these conditions. Collaborate with pharmacists, nurses, and other healthcare professionals to optimize medication management and minimize potential risks. Periodically reassess the need for each medication and adjust the treatment plan based on changes in the patient's clinical status and preferences. Despite the prevalence of cardiovascular polypharmacy in octogenarians, there is a need for more research to better understand the long-term effects, benefits, and risks associated with this practice [6].

Conclusion

Studying the specific medication regimens commonly prescribed to octogenarians and their effects on cardiovascular outcomes. Developing strategies to optimize medication regimens by identifying the most effective and least harmful combinations of medications. Exploring the potential for personalized medicine approaches to tailor medication regimens to individual patient profiles and genetics. Investigating interventions to improve patient education and medication adherence, particularly in older adults. Developing standardized tools for assessing frailty and incorporating frailty assessment into medication management decisions. Cardiovascular polypharmacy in octogenarians is a common practice aimed at reducing the risk of cardiovascular events and managing comorbidities. While it offers potential benefits, it also poses significant challenges related to adverse effects, drug interactions, nonadherence, and frailty. Healthcare providers should adopt a patient-centered approach, regularly reassess medication regimens, and engage in shared decision-making with patients to ensure that treatment aligns with individual goals and preferences. Future research should focus on optimizing medication management strategies and advancing personalized medicine approaches in this vulnerable population. Non-adherence can lead to suboptimal treatment outcomes. Each medication carries the risk of adverse effects, and when multiple drugs are prescribed, the cumulative risk of experiencing adverse events may rise.

Acknowledgement

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Conflict of Interest

None.

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