



BRIDGING THE GAP: ADDRESSING DISPARITIES IN REPERFUSION THERAPY FOR ELDERLY PATIENTS WITH ACUTE MYOCARDIAL INFARCTION IN EASTERN EUROPE

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Abstract

This paper addresses disparities in reperfusion therapy, particularly primary percutaneous coronary interventions (PCI), for elderly patients experiencing acute myocardial infarction (AMI). Despite proven benefits, our center's data reveals a stark contrast in PCI rates between younger and older patients, leading to significantly higher mortality among the elderly. Rooted in concerns about comorbidities, the reluctance to administer PCI prompts ethical questions and necessitates a critical examination of age-based clinical decision-making. The paper advocates for optimized AMI management protocols, emphasizing an individualized approach and evidence-based guidelines. Recognizing challenges in accurate AMI diagnosis in the elderly, educational initiatives target healthcare professionals and the population, disseminating information about symptoms and treatment benefits. To combat age-related stereotypes, digital tools like virtual consultations and telemedicine enhance accessibility to information. The paper proposes policy initiatives prioritizing clinical condition over age in treatment decisions, ensuring equitable care. In conclusion, urgent action is required to bridge the gap in reperfusion therapy for elderly AMI patients. By fostering inclusivity, implementing education, and advocating policy changes, we aim to ensure every patient, irrespective of age, receives timely and appropriate life-saving interventions.

Keywords: percutaneous coronary intervention; myocardial infarction; clinical decision-making; vessels; referral and consultation; aged; Ukraine

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Key Messages for Research and Practice

- Elderly patients often receive less primary percutaneous coronary interventions (PCI), leading to higher mortality.
- The age-based treatment gap arises from concerns about comorbidities and diagnostic challenges in elderly patients, raises ethical concerns and necessitates a commitment to equal access to life-saving interventions.
- The creation of a healthcare system where every patient, regardless of age, receives timely and effective care demands adopting evidence-based guidelines, educating healthcare professionals, and implementing policy initiatives that prioritize clinical condition over age.

In the context of acute myocardial infarction, the expeditious administration of reperfusion therapy holds paramount significance. Presently, primary percutaneous coronary interventions (PCI) stand as the principal modality for reperfusion [1]. Regrettably, despite the absence of explicit guidelines deeming age as a contraindication to PCI, coupled with numerous studies underscoring the advantageous outcomes of PCI in elderly populations [2-3], there persists a notable discrepancy wherein older patients are disproportionately less likely to undergo reperfusion therapy in comparison to their younger counterparts [4-5]. Our empirical data, drawn from the patient population treated at the Ukrainian-Polish Heart Center in Lviv, Ukraine, situated in Eastern Europe, aligns with and supports the aforementioned trend.

The cohort of 823 patients diagnosed with ST-elevation myocardial infarction (STEMI) and high-risk non-ST-elevation myocardial infarction (NSTEMI) under our care during the period spanning 2022-2023, a demarcation based on age revealed that 608 individuals were below 75 years (74%), while 215 belonged to the age group of 75 years and above (26%). Percutaneous coronary intervention (PCI) was administered to 430 patients (71%) in the younger group and 127 patients (59%) in the older group.

Furthermore, the discrepancy in reperfusion rates manifested consequential implications on mortality outcomes, with a discernible disparity between age groups. Specifically, the mortality rate among individuals with STEMI and NSTEMI below 75 years stood at 7%, whereas the older cohort exhibited a markedly higher mortality rate of 13%. This observed contrast underscores a nearly twofold increase in mortality risk among elderly patients in comparison to their younger counterparts.

This incongruity extends beyond the realm of academic inquiry, transcending into ethical considerations concerning the equitable allocation of life-saving interventions. It necessitates a probing examination of the underlying factors shaping age-based clinical decision-making.

Comorbidities

A pivotal element contributing to this dissonance lies in the heightened prevalence of comorbidities within the elderly demographic. Clinicians grapple with apprehensions regarding the elevated risks and potential complications associated with reperfusion therapy, as evidenced

by existing literature [6-7]. This apprehension serves as a primary rationale for the reluctance to pursue PCI in the context of acute myocardial infarction. While a cautious approach is justifiable, it is imperative to recognize the established advantages of prompt reperfusion in preserving cardiac function and enhancing overall survival. Despite the inherent limitations in the representativeness of older individuals in clinical trials, the existing data indicates that, notwithstanding the lower likelihood of older patients with AMI undergoing PCI, the implementation of such treatment correlates with a reduced duration of hospitalization, notable enhancements in functional capacity, and improved clinical outcomes [8].

Atypical symptoms

The manifestation of atypical symptoms, including non-specific chest pain, nausea, vomiting, general weakness, or subtle presentations, often hinders a prompt and precise diagnosis of AMI [4]. This diagnostic complexity contributes to delays in initiating treatment, posing a substantial risk to the success of PCI. Regrettably, the elderly demographic tends to experience prolonged intervals between diagnosis and intervention, exacerbating the threat to PCI efficacy [8].

In light of these challenges, our concerted efforts should be directed towards refining and optimizing AMI management protocols. The overarching goal is to ensure that every patient, irrespective of age, receives timely and efficacious care, addressing both diagnostic hurdles and therapeutic delays.

Addressing this necessitates a comprehensive educational paradigm for medical institutions dedicated to the care of patients experiencing AMI. Clinicians are urged to adhere to the latest evidence-based guidelines in their practice, which underscore the significance of an individualized approach, eschewing age-based discrimination. Continuing education programs are instrumental in aiding healthcare professionals in navigating the intricacies associated with treating elderly patients with AMI, fostering a mindset that prioritizes factors specific to each patient rather than relying on age-related stereotypes.

Another pivotal strategy to counteract age-related stereotypes involves the implementation of educational programs targeting the general population. These initiatives should concentrate on disseminating information concerning risk factors, symptoms, and lifestyles conducive to heart health, as well as imparting knowledge on recognizing

heart attack symptoms in both individuals and their close associates. The dissemination of straightforward, easily accessible information regarding the distinctive symptoms and risk factors associated with heart attacks in the elderly, alongside insights into contemporary methods of heart attack treatment and their advantages, is imperative.

Educational programs should extend beyond the elderly demographic to encompass those individuals integral to their care. A well-informed understanding of the signs of a heart attack and the imperative nature of immediate action among relatives or caregivers equips them to respond promptly when necessary.

In an era marked by technological advancements, it is imperative to harness the capabilities of digital tools. Educational programs should incorporate user-friendly applications, virtual health consultations, and telemedicine services, thereby facilitating seamless access to information and healthcare resources. This not only augments awareness but also ensures that seniors can maintain connectivity with healthcare providers from the comfort of their residences.

Furthermore, the implementation of policy initiatives is crucial to mitigate the influence of age as a sole determinant in treatment decisions. Explicit recommendations should accord precedence to the patient's clinical condition over chronological age. Additionally, health systems should allocate resources and invest in infrastructure that expedites swift and effective treatment, ensuring equitable care across all age groups.

In conclusion, the observed disparities in reperfusion therapy utilization among age groups in acute myocardial infarction underscore the imperative for a comprehensive and equitable approach to care. Efforts must be directed towards refining diagnostic protocols, addressing age-related stereotypes, and promoting education initiatives that empower both healthcare professionals and the general population.

By fostering a patient-centric mindset, embracing technological advancements, and implementing unbiased policies, we can strive for a healthcare landscape that ensures prompt and effective treatment for all individuals, regardless of age, confronting this critical cardiovascular condition.

AUTHOR CONTRIBUTIONS

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CONFLICT OF INTEREST

The author has completed the ICMJE Disclosure Form and declares that there are no potential conflicts of interest.

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ETHICS APPROVAL

Not applicable

DISCLAIMER

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