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Review Article

Comparative Study of ACE Inhibitors and ARBs in Hypertension Management

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ABSTRACT

Hypertension is a major global health concern and a leading contributor to cardiovascular morbidity and mortality. Effective management of hypertension is essential to reduce the risk of complications such as stroke, myocardial infarction, heart failure, and chronic kidney disease. Among the various antihypertensive drug classes, agents targeting the Renin–Angiotensin–Aldosterone System—namely Angiotensin-Converting Enzyme (ACE) inhibitors and Angiotensin II Receptor Blockers (ARBs)—have emerged as cornerstone therapies due to their proven efficacy and organ-protective effects.This study presents a comprehensive comparative evaluation of ACE inhibitors and ARBs in the management of hypertension through a narrative integrative review of randomized controlled trials, observational studies, meta-analyses, and international clinical guidelines. The analysis focuses on pharmacological mechanisms, pharmacokinetic and pharmacodynamic characteristics, clinical efficacy, safety profiles, and therapeutic outcomes.The findings indicate that both ACE inhibitors and ARBs are equally effective in lowering blood pressure and reducing the risk of major cardiovascular events. In addition, both drug classes demonstrate significant renoprotective effects, particularly in patients with diabetes mellitus and chronic kidney disease, by reducing proteinuria and slowing disease progression. However, notable differences exist in their safety profiles. ACE inhibitors are associated with adverse effects such as persistent dry cough and angioedema due to bradykinin accumulation, whereas ARBs exhibit improved tolerability with a lower incidence of these side effects, resulting in better patient adherence and reduced treatment discontinuation.Clinical evidence and guideline recommendations support the use of ACE inhibitors as first-line therapy in many cases; however, ARBs are preferred in patients who are intolerant to ACE inhibitors or at higher risk of adverse reactions. Both classes require careful monitoring due to the potential risk of hyperkalemia and changes in renal function.In conclusion, ACE inhibitors and ARBs provide comparable efficacy in hypertension

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management, but ARBs offer a more favourable tolerability profile. The selection of therapy should be individualized based on patient characteristics, comorbid conditions, and safety considerations. Future research should focus on personalized medicine approaches and long-term comparative outcomes to further optimize antihypertensive therapy.

INTRODUCTION

1. Global Burden of Hypertension

Hypertension is one of the most prevalent non-communicable diseases worldwide and remains a leading cause of cardiovascular morbidity and mortality[1]. According to the World Health Organization, more than one billion individuals are affected globally, with a significant proportion remaining undiagnosed or inadequately treated[1]. The burden is particularly high in low- and middle-income countries, where healthcare access and awareness are limited.

Persistent elevation of blood pressure is strongly associated with adverse clinical outcomes such as stroke, myocardial infarction, heart failure, and chronic kidney disease[2]. Epidemiological studies have demonstrated a direct and continuous relationship between blood pressure levels and cardiovascular risk, even within the normal range[3].

Hypertension is often referred to as a "silent killer" because it remains asymptomatic in its early stages while causing progressive damage to vital organs such as the heart, brain, and kidneys[4]. Therefore, early detection, prevention, and effective management are critical in reducing disease burden.

2. Classification and Clinical Significance of Hypertension

Hypertension is classified based on systolic and diastolic blood pressure levels as per international guidelines such as American College of Cardiology and European Society of Cardiology[23].

Table 1: Classification of Blood Pressure (ACC/AHA Guidelines)

Category	Systolic BP (mmHg)	Diastolic BP (mmHg)
Normal	<120	<80
Elevated	120–129	<80
Stage 1 Hypertension	130–139	80–89
Stage 2 Hypertension	≥140	≥90

Uncontrolled hypertension significantly increases the risk of:

- Coronary artery disease
- Cerebrovascular accidents (stroke)
- Heart failure
- Peripheral vascular disease
- Chronic kidney disease[2]

3. Pathophysiology of Hypertension

The pathogenesis of hypertension is multifactorial, involving genetic, environmental, and neurohormonal mechanisms. Among these, the Renin–Angiotensin–Aldosterone System (RAAS) plays a central role in regulating blood pressure and fluid balance[5].

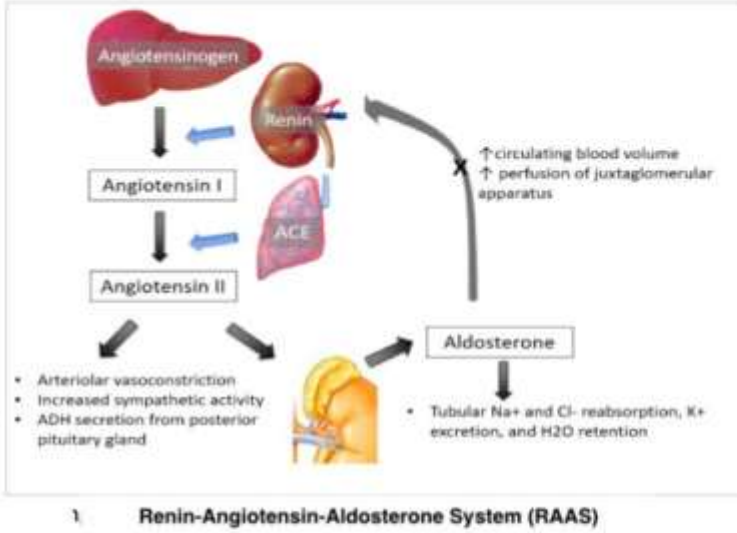

Figure 1: RAAS Pathway (Conceptual Representation)

Mechanism Overview

1. Renin is released from the kidneys in response to:
   - Reduced renal perfusion
   - Low sodium levels
   - Sympathetic stimulation
2. Renin converts angiotensinogen (from liver) → angiotensin I
3. Angiotensin-converting enzyme (ACE) converts angiotensin I → angiotensin II
4. Angiotensin II causes:
   - Vasoconstriction
   - Aldosterone secretion
   - Sodium and water retention
   - Increased blood pressure[6]

4. Role of RAAS in Cardiovascular and Renal Disease

RAAS overactivation contributes not only to hypertension but also to long-term organ damage. Angiotensin II promotes:

- Vascular remodeling
- Endothelial dysfunction
- Cardiac hypertrophy
- Renal fibrosis[7]

These effects lead to progressive cardiovascular and renal diseases, making RAAS a key therapeutic target in hypertension management[8].

5. Pharmacological Targeting of RAAS

Pharmacological inhibition of RAAS is a cornerstone of antihypertensive therapy. Two major drug classes are widely used:

- ACE inhibitors
- Angiotensin II Receptor Blockers (ARBs)[9]

These agents not only reduce blood pressure but also provide additional organ-protective effects.

6. ACE Inhibitors: Mechanism and Clinical Importance

ACE inhibitors, such as enalapril and ramipril, act by inhibiting the conversion of angiotensin I to angiotensin II[10]. This leads to:

- Reduced vasoconstriction
- Decreased aldosterone secretion
- Lower blood pressure

Additionally, ACE inhibitors increase bradykinin levels, enhancing vasodilation[11].

Clinical Benefits

- Reduction in cardiovascular mortality[12]
- Improved outcomes in heart failure
- Protection against diabetic nephropathy

However, increased bradykinin levels are associated with adverse effects such as:

- Dry cough
- Angioedema[13]

7. ARBs: Mechanism and Clinical Importance

ARBs, such as losartan and valsartan, selectively block angiotensin II type 1 (AT1) receptors[14]. This prevents the action of angiotensin II without affecting bradykinin metabolism.

Advantages of ARBs

- Comparable blood pressure reduction
- Lower incidence of cough
- Better tolerability[15]

Clinical Applications

- Hypertension
- Chronic kidney disease
- Cardiovascular risk reduction

8. Comparative Pharmacological Characteristics

Table 2: Comparison of ACE Inhibitors and ARBs

Feature	ACE Inhibitors	ARBs
Mechanism	Inhibit ACE enzyme	Block AT1 receptor
Effect on Bradykinin	Increased	No effect
Cough	Common	Rare
Angioedema	Possible	Very rare
Efficacy	High	High
Tolerability	Moderate	Better

9. Clinical Evidence Supporting RAAS Inhibitors

Several landmark trials support the use of ACE inhibitors and ARBs:

- HOPE trial: Reduced cardiovascular events with ACE inhibitors[12]
- LIFE study: ARBs effective in reducing stroke risk[16]
- ONTARGET trial: ARBs comparable to ACE inhibitors[17]
- RENAAL & IDNT: Significant renal protection with ARBs[18,19]

These studies confirm that both classes are effective in improving clinical outcomes.

10. Safety Considerations and Monitoring

Both ACE inhibitors and ARBs may cause:

- Hyperkalemia
- Renal function impairment

Monitoring of serum potassium and creatinine is essential, especially in patients with chronic kidney disease[20].

Table 3: Common Adverse Effects

Adverse Effect	ACE Inhibitors	ARBs
Dry cough	High	Low
Hyperkalemia	Present	Present
Renal impairment	Possible	Possible
Angioedema	Rare	Very rare

11. Need for Comparative Evaluation

Despite extensive use, choosing between ACE inhibitors and ARBs remains a clinical challenge. Factors influencing selection include:

1. Patient tolerance
2. Comorbid conditions
3. Risk of adverse effects
4. Cost and availability[2]

While ACE inhibitors are often first-line therapy, ARBs are preferred in patients who are intolerant to ACE inhibitors[20].

12. Rationale for the Present Study

Given the widespread use of RAAS inhibitors and the subtle differences between ACE inhibitors and ARBs, a detailed comparative evaluation is essential. Understanding their pharmacological, clinical, and safety profiles will help in:

1. Optimizing treatment strategies
2. Improving patient adherence
3. Enhancing therapeutic outcomes

13. Scope of the Study

This study aims to provide a comprehensive comparison of ACE inhibitors and ARBs with respect to:

1. Mechanism of action
2. Clinical efficacy
3. Safety and tolerability
4. Cardiovascular and renal outcomes

The findings will support evidence-based clinical decision-making in hypertension management.

AIM AND OBJECTIVES:

Aim

To conduct a comprehensive comparative evaluation of Angiotensin-Converting Enzyme (ACE) inhibitors and Angiotensin II Receptor Blockers (ARBs) in the management of Hypertension, with emphasis on their pharmacological mechanisms, clinical efficacy, safety profiles, and overall therapeutic outcomes based on current evidence and clinical guidelines.

Objectives

1. To describe the role of the Renin–Angiotensin–Aldosterone System in the pathophysiology of hypertension
2. To explain and compare the mechanism of action of ACE inhibitors and ARBs
3. To evaluate the pharmacokinetic and pharmacodynamic characteristics of both drug classes
4. To assess and compare the efficacy of ACE inhibitors and ARBs in reducing systolic and diastolic blood pressure

5. To analyze the cardiovascular protective effects of both drug classes, including reduction in risks of myocardial infarction, stroke, and heart failure

6. To evaluate the renoprotective effects of ACE inhibitors and ARBs, particularly in patients with chronic kidney disease and diabetes mellitus

7. To compare the safety profiles and adverse drug reactions associated with ACE inhibitors and ARBs, including cough, angioedema, and hyperkalemia

8. To identify patient-specific factors and clinical scenarios where one class is preferred over the other

9. To review and interpret current clinical guidelines from organizations such as World Health Organization, American College of Cardiology, and European Society of Cardiology regarding the use of ACE inhibitors and ARBs

10. To evaluate the impact of drug tolerability and patient adherence on treatment outcomes

11. To identify gaps in existing literature and suggest areas for future research, including personalized medicine approaches in hypertension management

METHODOLOGY

1. Study Design

This study was conducted as a narrative integrative review to comprehensively compare the efficacy, safety, and clinical outcomes of Angiotensin-Converting Enzyme (ACE) inhibitors and Angiotensin II Receptor Blockers (ARBs) in the management of Hypertension. The integrative review design was selected as it allows the inclusion and synthesis of diverse forms of evidence, including randomized controlled trials (RCTs), observational studies, systematic reviews, and clinical practice guidelines. This approach facilitates a holistic understanding of pharmacological, clinical, and safety aspects of both drug classes.

2. Study Setting

The study was conducted as a literature-based academic research project without direct patient involvement. All data were obtained from published scientific literature and internationally recognized clinical guidelines.

3. Study Population

The review focused on studies involving:

1. Adult patients (≥18 years) diagnosed with hypertension
2. Patients with comorbid conditions such as:
   - Diabetes mellitus
   - Chronic kidney disease (CKD)
   - Cardiovascular diseases (e.g., heart failure, myocardial infarction)

Special emphasis was given to populations in which ACE inhibitors and ARBs are recommended as first-line or alternative therapies.

4. Data Sources

Relevant literature was retrieved from the following electronic databases:

1. PubMed
2. Scopus

3. Google Scholar
4. Cochrane Library

Additionally, clinical guidelines from major organizations such as the World Health Organization, American College of Cardiology, and European Society of Cardiology were included to ensure evidence-based recommendations.

5. Search Strategy

A structured search strategy was employed using a combination of Medical Subject Headings (MeSH) and free-text keywords. The following keywords were used:

1. "Hypertension"
2. "ACE inhibitors"
3. "Angiotensin II receptor blockers"
4. "RAAS inhibitors"
5. "Blood pressure control"
6. "Cardiovascular outcomes"
7. "Renal protection"
8. "Adverse drug reactions"

Boolean operators (AND, OR) were applied to refine the search and improve relevance.

Example search string:(Hypertension AND "ACE inhibitors" AND "ARBs" AND "comparative effectiveness")

6. Inclusion Criteria

Studies were included based on the following criteria:

1. Peer-reviewed research articles, randomized controlled trials, observational studies, systematic reviews, and meta-analyses
2. Studies published between 1998 and 2025
3. Studies involving adult hypertensive patients (≥18 years)
4. Studies comparing ACE inhibitors and ARBs in terms of:

- Efficacy (blood pressure reduction)
- Safety and adverse effects
- Cardiovascular outcomes
- Renal outcomes
- Studies evaluating pharmacokinetics and pharmacodynamics
- Clinical guidelines and consensus statements

7. Exclusion Criteria

The following studies were excluded:

1. Studies involving paediatric or pregnant populations
2. Non-comparative studies focusing on a single drug class without relevance
3. Editorials, letters, and conference abstracts without full data
4. Studies lacking clear methodology or outcome measures
5. Duplicate publications
6. Articles unrelated to hypertension or RAAS inhibitors

8. Data Collection Procedure

Data were collected systematically from selected studies using a structured extraction format. The following information was recorded:

1. Author(s) and year of publication
2. Study design (RCT, cohort, meta-analysis, etc.)
3. Study population characteristics
4. Intervention details (ACE inhibitors vs ARBs)
5. Outcome measures:
   - Blood pressure reduction
   - Cardiovascular outcomes
   - Renal outcomes
   - Adverse drug reactions
6. Key findings and conclusions

All selected studies were critically reviewed for relevance, quality, and methodological rigor.

9. Data Analysis

A thematic analysis approach was used to synthesize the collected data. The findings were categorized into the following major themes:

9.1 Mechanism Of Action

Comparison of pharmacological pathways involving the Renin–Angiotensin–Aldosterone System

9.2 Comparative Efficacy

Evaluation of blood pressure reduction and clinical effectiveness

9.3 Cardiovascular Outcomes

Assessment of effects on myocardial infarction, stroke, and heart failure

9.4 Renal Outcomes

Analysis of proteinuria reduction and progression of kidney disease

9.5 Safety and Tolerability

Comparison of adverse effects such as cough, angioedema, and hyperkalemia

9.6 Clinical Guidelines

Review of recommendations from international organizations

The results were integrated to provide a comprehensive comparative interpretation.

10. Quality Assessment

The quality of included studies was evaluated based on:

1. Study design robustness
2. Sample size adequacy
3. Statistical analysis methods
4. Risk of bias
5. Consistency of findings

Priority was given to high-quality evidence such as randomized controlled trials, meta-analyses, and international clinical guidelines.

11. Study Limitations

The following limitations were identified:

1. Narrative review design may introduce selection bias
2. Variability in study populations and methodologies
3. Limited direct head-to-head randomized trials
4. Differences in drug dosing and duration across studies
5. Potential publication bias

12. Ethical Considerations

As this study is based on previously published data, ethical approval was not required. However, all sources were properly cited, and academic integrity was strictly maintained.

13. Expected Outcomes

The study aims to:

1. Provide a clear comparative understanding of ACE inhibitors and ARBs
2. Identify differences in efficacy and safety
3. Support evidence-based clinical decision-making
4. Improve rational prescribing practices
5. Highlight areas for future research

FINDINGS AND DISCUSSION

1. Overview of Key Findings

The present study provides a detailed comparative evaluation of Angiotensin-Converting Enzyme (ACE) inhibitors and Angiotensin II Receptor Blockers (ARBs) in the management of Hypertension. The findings indicate that both drug classes are highly effective in reducing blood pressure and preventing cardiovascular and renal complications. However, differences in pharmacological mechanisms, safety profiles, and patient tolerability significantly influence clinical decision-making.

2. Mechanism-Based Differences

1. ACE inhibitors act by inhibiting the conversion of angiotensin I to angiotensin II, thereby reducing vasoconstriction, aldosterone secretion, and sympathetic activation. Additionally, ACE inhibitors increase bradykinin levels, which contribute to vasodilation but are also responsible for adverse effects such as dry cough and angioedema.
2. In contrast, ARBs selectively block angiotensin II type 1 (AT1) receptors, preventing the physiological effects of angiotensin II without influencing bradykinin metabolism. This selective mechanism results in effective blood pressure control with fewer side effects.
3. These findings confirm that both drug classes target the Renin–Angiotensin–Aldosterone System but through different pharmacological pathways, which explains variations in tolerability and clinical outcomes.

3. Comparative Efficacy in Blood Pressure Control

1. Evidence from multiple randomized controlled trials and meta-analyses indicates that ACE inhibitors and ARBs provide comparable reductions in systolic and diastolic blood pressure. Studies such as those by Turnbull et al. and Chen et al. demonstrate no significant difference in antihypertensive efficacy between the two classes.

2. This suggests that both ACE inhibitors and ARBs are equally effective as first-line agents in hypertension management. However, the choice of therapy often depends on patient-specific factors rather than differences in efficacy.

4. Cardiovascular Outcomes

1. Both ACE inhibitors and ARBs have demonstrated significant cardiovascular protective effects, including reduction in:
2. Myocardial infarction
3. Stroke
4. Heart failure
5. ACE inhibitors, particularly in landmark trials such as the HOPE study, have shown a slight advantage in reducing mortality in high-risk patients. This benefit is attributed not only to RAAS inhibition but also to the additional effects of bradykinin.
6. ARBs, on the other hand, have demonstrated non-inferiority in major trials such as ONTARGET, confirming that they provide similar cardiovascular protection. The LIFE study further supports the role of ARBs in reducing stroke risk.
7. Overall, the findings indicate that while ACE inhibitors may offer marginal mortality benefits in certain populations, ARBs provide comparable cardiovascular protection with improved tolerability.

5. Renal Outcomes and Nephroprotection

1. Both ACE inhibitors and ARBs exhibit strong renoprotective effects, particularly in patients with diabetes mellitus and chronic kidney disease.
2. Key findings include:
3. Reduction in proteinuria
4. Slowing progression of renal disease
5. Preservation of glomerular filtration rate
6. The RENAAL and IDNT trials demonstrated that ARBs significantly reduce the progression of diabetic nephropathy. Similarly, ACE inhibitors have shown comparable benefits in delaying renal damage.
7. These findings reinforce the role of RAAS inhibition as a cornerstone in the management of hypertension with renal involvement.

6. Safety and Tolerability Profiles

1. One of the most significant differences between ACE inhibitors and ARBs lies in their adverse effect profiles.

ACE Inhibitors

1. Dry cough (5–20%)
2. Angioedema (rare but serious)
3. Hyperkalemia
4. Initial increase in serum creatinine
5. The incidence of cough is attributed to bradykinin accumulation and is a major reason for treatment discontinuation.

ARBs

1. Minimal risk of cough

2. Very low incidence of angioedema
3. Hyperkalemia (similar to ACE inhibitors)
4. Better overall tolerability
5. The improved safety profile of ARBs results in higher patient adherence and lower discontinuation rates.

7. Dual RAAS Blockade

1. The combination of ACE inhibitors and ARBs was initially considered a potential strategy for enhanced RAAS inhibition. However, studies such as those by Makani et al. demonstrated that dual therapy increases the risk of:
2. Hyperkalemia
3. Hypotension
4. Renal dysfunction
5. without providing significant additional clinical benefit. Therefore, current guidelines do not recommend routine use of combination therapy.

8. Pharmacokinetic and Pharmacodynamic Considerations

1. ACE inhibitors exhibit variability in pharmacokinetic properties, including differences in:
2. Bioavailability
3. Half-life
4. Requirement for hepatic activation
5. ARBs, in contrast, generally have:
6. More predictable pharmacokinetics
7. Longer duration of action
8. Better receptor selectivity
9. These differences may influence dosing convenience, patient compliance, and therapeutic outcomes.

9. Clinical Decision-Making and Patient-Centred Therapy

1. The selection between ACE inhibitors and ARBs should be individualized based on:
2. Patient tolerance
3. Presence of comorbid conditions
4. Risk of adverse effects
5. Cost and availability
6. **Preferred Clinical Scenarios**

Clinical Condition	Preferred Therapy
First-line hypertension	ACE inhibitors / ARBs
ACE inhibitor intolerance	ARBs
Chronic kidney disease	Both
Elderly patients	ARBs
Heart failure	ACE inhibitors

7. This highlights the importance of personalized medicine in optimizing treatment outcomes.

10. Role of Clinical Guidelines

1. Major clinical guidelines from organizations such as the World Health Organization, American College of Cardiology, and European Society of Cardiology consistently recommend ACE inhibitors and ARBs as first-line agents.
2. These guidelines emphasize:
3. Evidence-based drug selection

4. Risk stratification
5. Regular monitoring of renal function and electrolytes

11. Challenges and Gaps Identified

1. Despite strong evidence, several challenges remain:
2. Limited head-to-head randomized trials
3. Variability in patient response
4. Risk of hyperkalemia in CKD patients
5. Polypharmacy and drug interactions
6. Adherence issues in long-term therapy
7. These gaps highlight the need for further research and improved clinical strategies.

12. Implications for Clinical Practice

1. The findings of this study have several important clinical implications:
2. Both ACE inhibitors and ARBs are effective and essential in hypertension management
3. ARBs are preferred in patients intolerant to ACE inhibitors
4. Regular monitoring is necessary to prevent adverse effects
5. Treatment should be individualized based on patient characteristics
6. Rational prescribing improves long-term outcomes

13. Future Perspectives

1. Emerging trends in hypertension management include:
2. Personalized medicine approaches
3. Pharmacogenomic-guided therapy
4. Development of newer RAAS modulators
5. Integration of digital health tools for monitoring
6. These advancements are expected to further improve treatment outcomes and patient care.

14. Summary of Discussion

1. In summary, the comparative analysis demonstrates that:
2. ACE inhibitors and ARBs have similar efficacy in blood pressure control
3. ACE inhibitors may offer slight mortality benefit
4. ARBs provide better tolerability and adherence
5. Both classes offer significant cardiovascular and renal protection
6. Choice of therapy should be patient-specific and evidence-based

CONCLUSION

Hypertension remains a major global health concern and a leading contributor to cardiovascular morbidity and mortality. Effective long-term management is essential to reduce the risk of complications such as stroke, myocardial infarction, heart failure, and chronic kidney disease. Among the available antihypertensive therapies, Angiotensin-Converting Enzyme

(ACE) inhibitors and Angiotensin II Receptor Blockers (ARBs) have established themselves as cornerstone treatments due to their targeted action on the Renin–Angiotensin–Aldosterone System.

Based on the comprehensive evaluation of available evidence, both ACE inhibitors and ARBs demonstrate comparable efficacy in reducing systolic and diastolic blood pressure. In addition to effective blood pressure control, both drug classes provide substantial cardiovascular protection, significantly lowering the risk of major adverse events such as myocardial infarction, stroke, and heart failure. Furthermore, their renoprotective effects, particularly in patients with diabetes mellitus and chronic kidney disease, highlight their importance in preventing disease progression and improving long-term outcomes.

Despite these similarities, important differences exist between the two classes, particularly in terms of safety and tolerability. ACE inhibitors are associated with adverse effects such as persistent dry cough and, in rare cases, angioedema, primarily due to the accumulation of bradykinin. These adverse effects can negatively impact patient adherence and may necessitate discontinuation of therapy. In contrast, ARBs do not influence bradykinin metabolism and therefore exhibit a significantly lower incidence of these side effects. This improved tolerability makes ARBs a preferred option in patients who are intolerant to ACE inhibitors.

From a clinical perspective, ACE inhibitors continue to be widely recommended as first-line therapy, especially in patients with heart failure and post-myocardial infarction, where evidence suggests a modest mortality benefit. However, ARBs serve as an equally effective alternative, particularly in patients at higher risk of adverse reactions or those requiring long-term therapy. The choice between these agents should therefore be individualized, taking into account patient-specific factors such as comorbid conditions, risk profiles, drug tolerance, and adherence potential.

Another important consideration is the safety concern associated with dual blockade of the RAAS using both ACE inhibitors and ARBs. Evidence indicates that such combination therapy does not provide significant additional clinical benefit and is associated with an increased risk of adverse effects, including hyperkalemia, hypotension, and renal impairment. Therefore, current clinical practice discourages routine use of combined therapy.

The findings of this study also emphasize the importance of regular monitoring of renal function and serum electrolytes during therapy with RAAS inhibitors, particularly in patients with pre-existing renal impairment or those receiving concomitant medications that affect potassium balance. Appropriate monitoring ensures early detection of complications and enhances patient safety.

In the context of evolving healthcare practices, there is an increasing emphasis on personalized medicine in hypertension management. Tailoring therapy based on individual patient characteristics, genetic factors, and clinical conditions can further optimize treatment outcomes. Future research should focus on long-term comparative studies, pharmacogenomic approaches, and real-world evidence to refine treatment strategies.

In conclusion, both ACE inhibitors and ARBs are highly effective and indispensable in the management of hypertension. While they offer similar benefits in terms of blood pressure control and organ protection, ARBs demonstrate a more favourable tolerability profile and improved patient adherence. A rational, patient-centered approach that integrates clinical evidence, safety considerations, and individual patient needs is essential for optimizing therapeutic outcomes and reducing the overall burden of hypertension.

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