

THE USE OF ACE INHIBITORS OR ANGIOTENSIN II RECEPTOR BLOCKERS IN PATIENTS WITH DIABETIC NEPHROPATHY: A QUALITY ASSESSMENT OF AN INTERNAL MEDICINE CLINIC

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Background

- Diabetes Mellitus is a chronic medical condition with long-term impairment in multiple organ systems including the ophthalmologic, renal, cardiac, and neurological systems.
- About 30 to 40% of diabetics develop nephropathy.¹ Diabetic kidney disease is the one of the leading causes of End-Stage Renal Disease (ESRD) in developed countries, including the United States.²
- Studies have shown that Angiotensin II Receptor Blockers (ARB) or Angiotensin-Converting Enzyme inhibitors (ACEi) offer renoprotective benefits and slow the progression of diabetic nephropathy.³
- Our Internal Medicine residents' clinic provides care to a large population of diabetics. Most of the patients are underserved and uninsured, as such they usually present in the later stages of diabetic disease progression when organ impairments have begun.
- We will be evaluating the effectiveness of the medicine clinic in implementing ACEi or ARB use in patients with diabetic nephropathy.

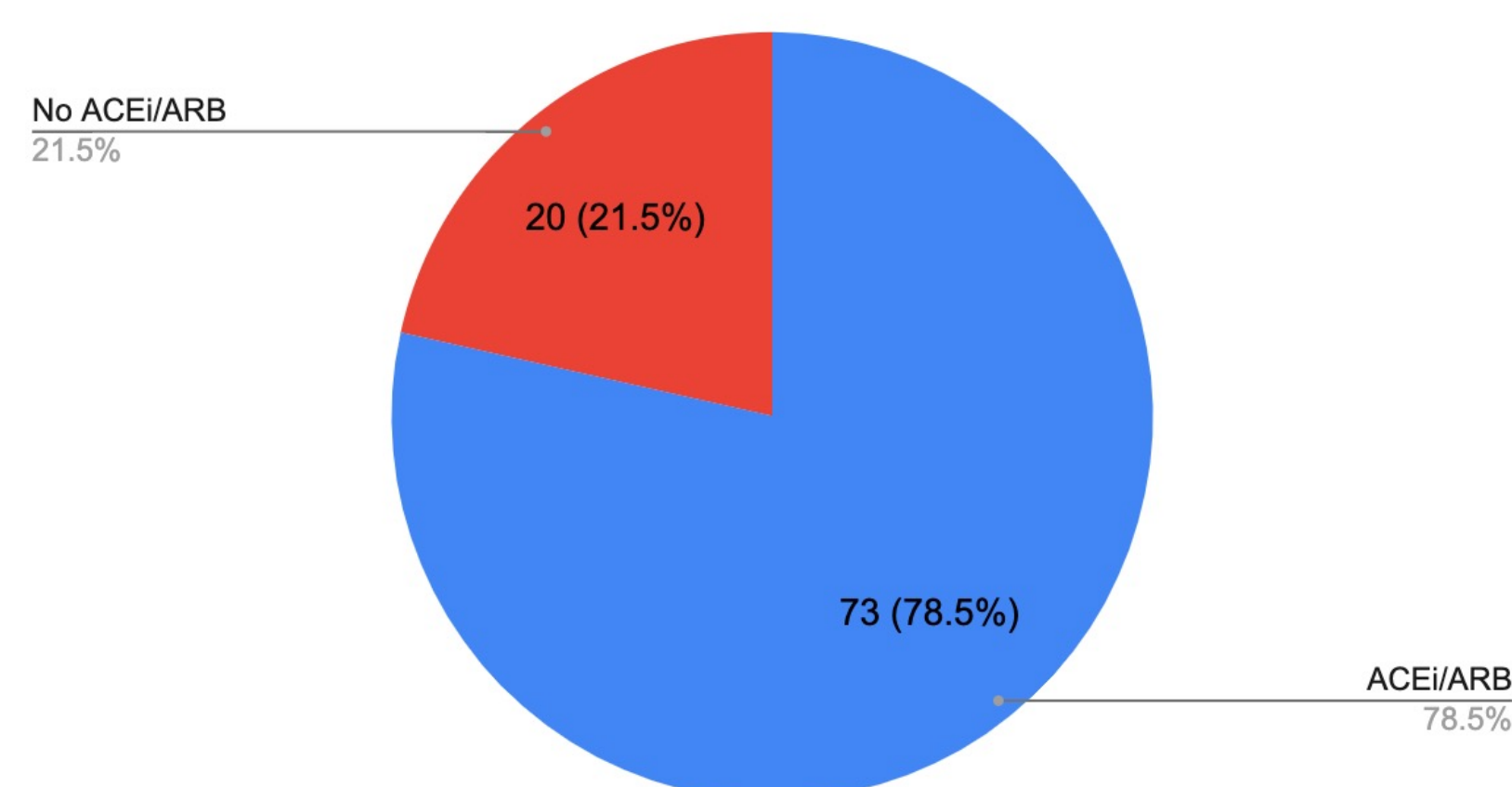
Method

- Study population: A list of 93 patients with diabetic nephropathy who visited the Internal Medicine clinic.
- Study period: From January 2020 to April 2022.
- Data collection: The patient list was generated using the ICD-10 code for diabetic nephropathy. Data was manually extracted from each patient's chart.
- Exclusion criteria: Patients who were allergic to ACEi or ARB, and patients who were deceased were not included in the data.

Results

- Out of the 93 patients with diabetic nephropathy, 73 (78.5%) were prescribed ACEi or ARB as part of the treatment of diabetic nephropathy. 20 (21.5%) patients did not receive ACEi or ARB.

The Use of ACEi/ARB in patients with diabetic nephropathy at the Internal Medicine clinic



KDIGO 2020 Clinical Practice Guideline for Diabetes Management in CKD

- Recommendation: We recommend that treatment with an angiotensin-converting enzyme inhibitor (ACEi) or an angiotensin II receptor blocker (ARB) be initiated in patients with diabetes, hypertension, and albuminuria, and that these medications be titrated to the highest approved dose that is tolerated.
- Practice points:
- For patients with diabetes, albuminuria, and normal blood pressure, treatment with an ACEi or ARB may be considered.
 - Monitor for changes in blood pressure, serum creatinine, and serum potassium within 2–4 weeks of initiation or increase in the dose of an ACEi or ARB.
 - Continue ACEi or ARB therapy unless serum creatinine rises by more than 30% within 4 weeks following initiation of treatment or an increase in dose.
 - Advise contraception in women who are receiving ACEi or ARB therapy and discontinue these agents in women who are considering pregnancy or who become pregnant.
 - Hyperkalemia associated with the use of an ACEi or ARB can often be managed by measures to reduce serum potassium levels rather than decreasing the dose or stopping the ACEi or ARB immediately.

Conclusion

- In this evaluation, our results conclude that a large majority of our patients in the Internal Medicine residents' clinic were appropriately prescribed ACEi or ARB, in accordance with current guidelines for diabetics.
- Future analysis could also include exclusion criteria for those who've failed therapy secondary to allergy or drug interaction, compliance and economic barriers to use.
- Resident education specific to these guidelines could further improve the routine use of ACEi/ARB accordingly.

References

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