# Safety and efficacy of apixaban dosage for stroke prevention in atrial fibrillation with acute kidney injury populations in a tertiary care hospital

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## Introduction

There are no established European Society of Cardiology guidelines for safe dosage of apixaban for stroke prevention in atrial fibrillation (AF) in the population with acute kidney injury (eGFR <30). A lack of acceptable safe correct dosage of apixaban in this population can lead to potentially serious or life-threatening implications such as acute metabolic acidosis and long-term renal replacement therapy for worsening kidney function.[1]

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## Materials and methods (Fig 1)

This study was conducted to investigate the safe and efficient apixaban dose that is indicated in the World Health Organization guidelines. Further objectives were to formulate local guidelines to standardise apixaban prescription.[2] A total of 50 patients with a $CHA_2DS_2$-VASc score of ≥2 were assessed for safe apixaban dose from 1 December 2021 to 1 February 2022. Out of these, 30 presented with acute kidney injury (AKI) (study population). Apixaban dose was counted from the day it was initiated until discharge, and recorded in electronic prescription. Efficacy for safe prescription was assessed in different steps as adherence to standard apixaban dose for AF and correct renal dose for AKI.

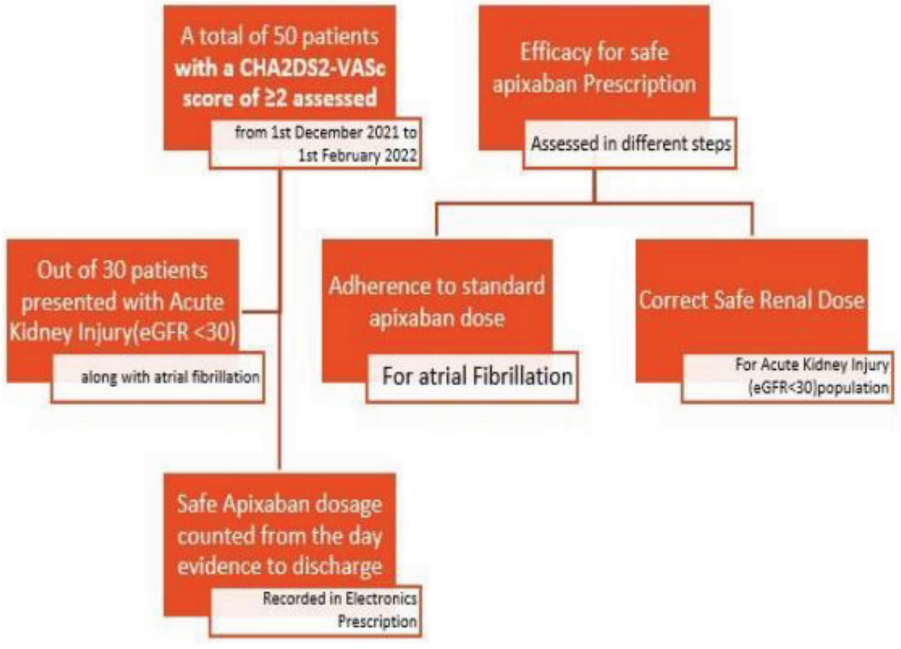


**Fig 1. Methods flowchart QI tools.**

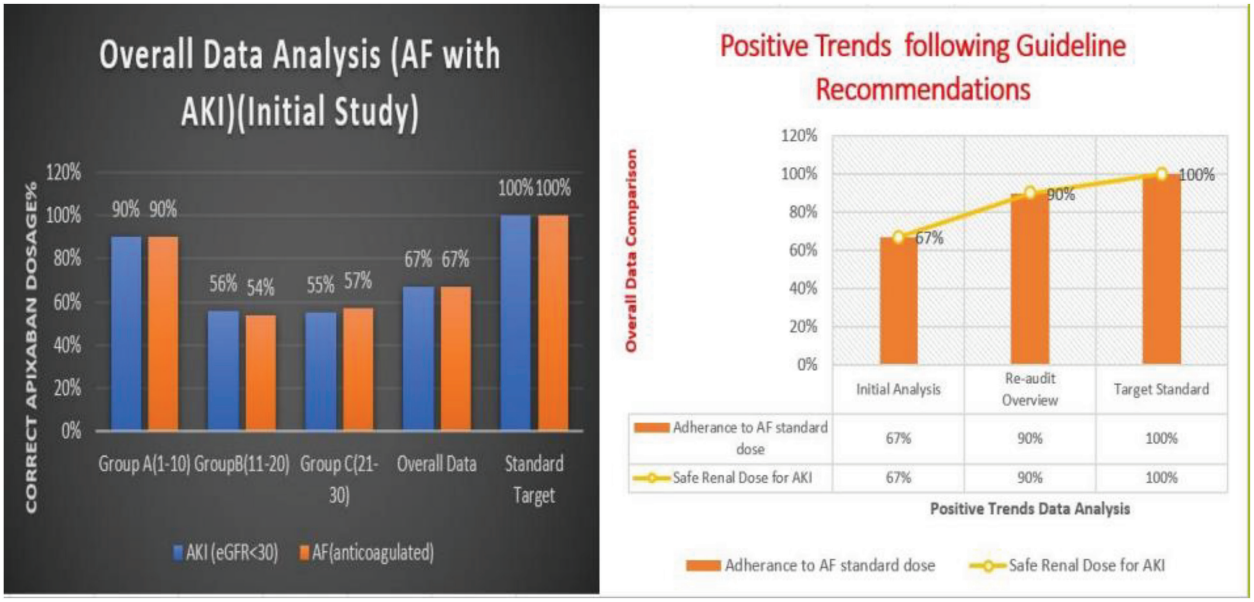


**Fig 2. Overall data analysis and positive trends data comparison following recommendation.**

An acceptable audit standard was devised as 100% adherence to a safe renal dose (2.5 mg BD) of apixaban for all patients experiencing AF with AKI.

## Results and discussion (Fig 2)

It was found that only 20 out of 30 patients (67%) achieved a safe renal dose of apixaban. In 10 of the 30 patients who did not meet the audit standard, the main reasons were lack of education about safe apixaban dose in AKI and standard guidelines. A standardised safe renal dose was hence devised to improve the efficacy of apixaban for stroke prevention. This involved designating the on-call cardiology registrar to flag up the importance of a safe apixaban dose in the AKI population. A multiprofessional team discussion was held about poor adherence to safe apixaban prescription, with ongoing analysis following guideline recommendation. Reanalysis from 15 February to 3 March 2022 revealed an improvement from 67% to 90% adherence to the safe renal dose of apixaban in populations with AKI and AF following implementation of guideline recommendation.

An annual clinical governance meeting has been planned for ongoing reanalysis for adherence to guideline and safe apixaban prescription for the AKI and AF population in long-term stroke risk prevention.

## Conclusion

The incorporation of audit recommendation in local cardiology guidelines has led to significant improvement in patient quality of care and safety prescription for stroke prevention in AF with AKI population.[2] Overall, this study highlights a future focus on guideline-recommended apixaban dosage adjustments in the AKI population who require anti-coagulation therapy for future stroke prevention. ■

## References

1 Yao X, Tangri N, Gersh BJ, Sangaralingham LR, Shah ND, Nath KA *et al*. Renal outcomes in anticoagulated patients with atrial fibrillation. *J Am Coll Cardiol* 2017;70:2621–32.
2 Kyaw K. Standardized LocSSIPs improves risk prevention for in-patient angioplasty in tertiary care hospital. *Eur Heart J* 2022;43(Supplement_1):ehab849.126.