

Problem Definition

The significance of this study is to determine the degree of inconsistency in dosing practice of DOACs at a quaternary care institution such as Thomas Jefferson University Hospital.

1. What is the primary indication for anticoagulation in out population?
2. What percentage is dosed correctly?
3. Are patients primarily over or underdosed?

Current Dosing Guidelines

Medication	Action	Dosing
Rivaroxaban (Xarelto)	Direct Factor Xa inhibitor	20mg daily (15mg if CrCl 15-50)
Apixaban (Eliquis)		5mg BID (2.5 mg if Cr _≥ 1.5 AND age ≥ 80 OR wt ≤ 60 kg)

Results

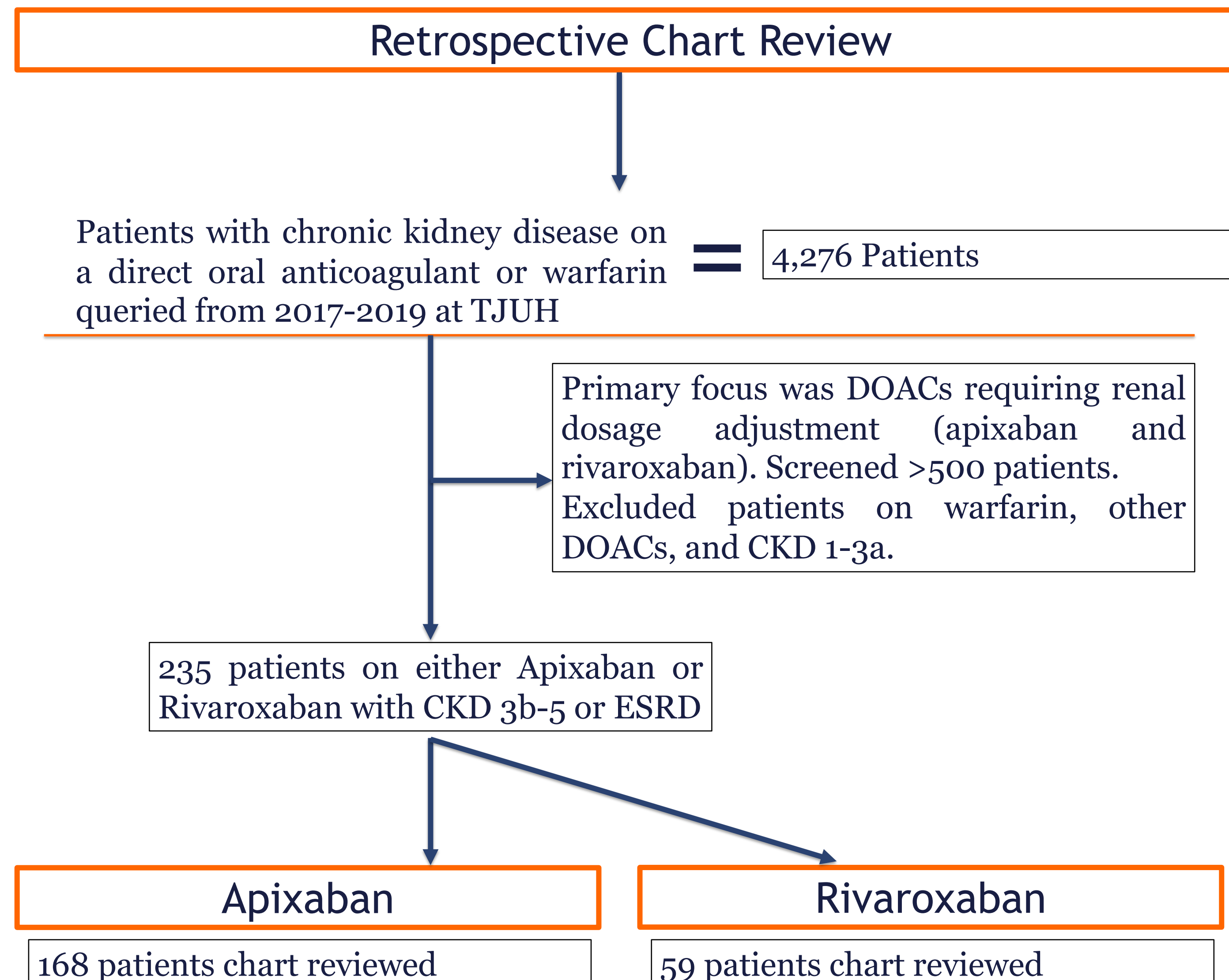
Baseline Characteristics

	Apixaban	Rivaroxaban	p-value
n	168	59	
Age (mean (SD))	68.74 (12.48)	72.80 (7.95)	0.021
Female (%)	81 (48.2)	26 (44.1)	0.691
Level of Kidney Injury (%)			<0.001
CKD 3b	30 (17.9)	27 (45.8)	
CKD 4	67 (39.9)	19 (32.2)	
CKD 5	2 (1.2)	8 (13.6)	
ESRD	69 (41.1)	5 (8.5)	

Anticoagulation Indications

	CDK 3-5	ESRD	p-value
n	153	74	
Atrial fibrillation/flutter (%)	115 (75.2)	44 (59.5)	0.023
DVT or PE (%)	35 (22.9)	27 (36.5)	0.046
Post Surgical (%)	0 (0.0)	1 (1.4)	0.710
Other (%)	3 (2.0)	1 (1.4)	1.000

Methods



Conclusions

Based on the data reviewed there is significant variability in dosing of DOACs-primarily apixaban and rivaroxaban

- 42% of patients with severe chronic kidney disease or end-stage renal disease were incorrectly dosed with apixaban (p = 0.02) - overwhelmingly underdosed!
- More than half (53%) of patients on dialysis were incorrectly dosed with apixaban (p = 0.07)!
- 35% of patients with severe chronic kidney disease were dosed incorrectly with apixaban compared to 25% with rivaroxaban.

Proposed Next Steps

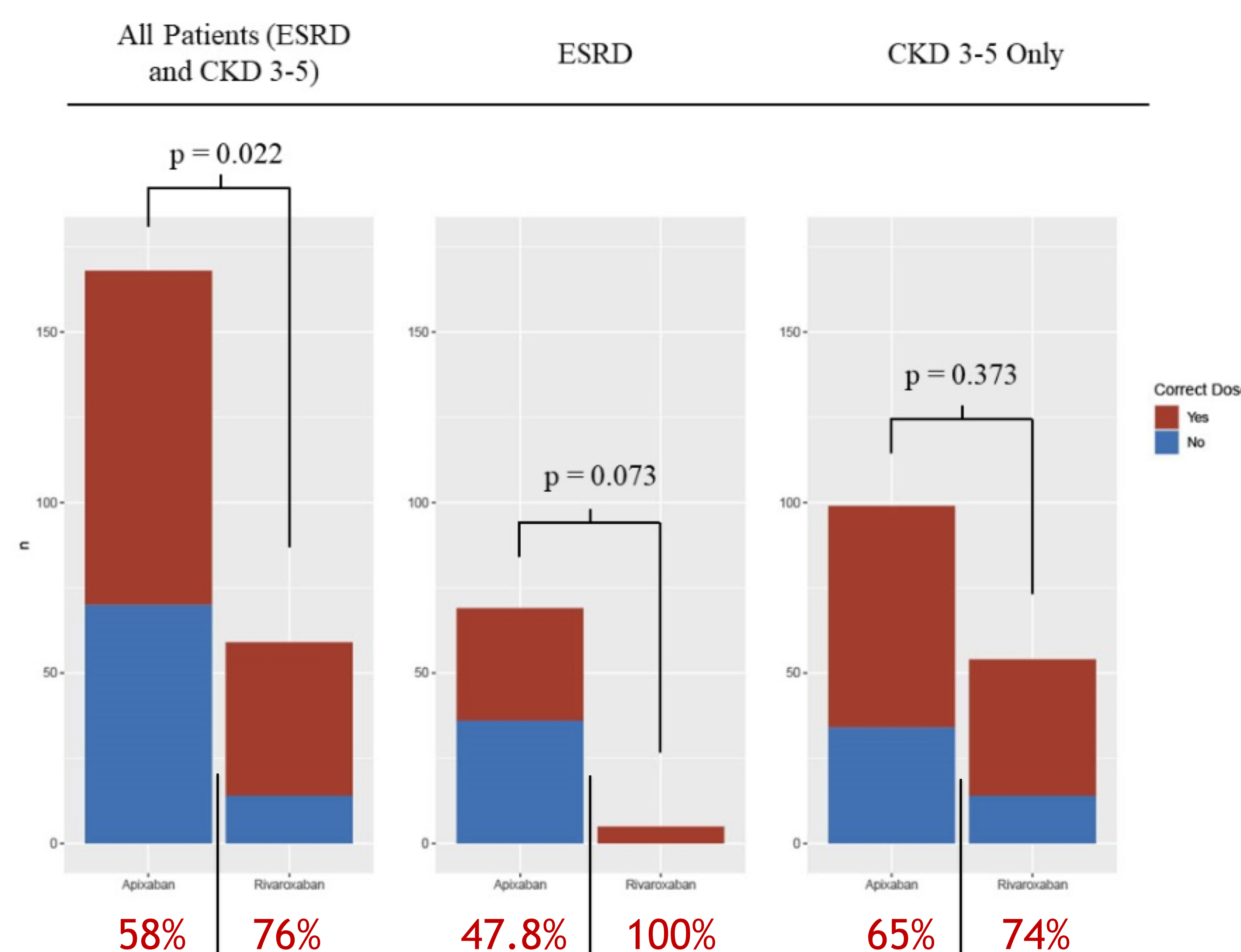
1. Gauge interdisciplinary understanding on DOAC dosing in renal impairment via survey
2. Discuss possible EPIC alerts or checklists when dosing apixaban or rivaroxaban to avoid underdosing
3. Analyze outcomes as a result of incorrect dosing

Limitations of Study

1. Limited power in severe chronic kidney disease arm - will need to continue analyzing more patients in this population to determine if statistically significant difference exists, however preliminary data is quite stark
2. Multiple chart reviewers with varying techniques

References

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Percent Dosed Correctly