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Emergency Department Oral Anticoagulation Prescribing: Preimplementation of a Clinical Decision Support Tool

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Background

Atrial fibrillation (AF) is the most common arrhythmia in the emergency department (ED). AF increases the risk of stroke; thus, early initiation of oral anticoagulation (OAC) for at-risk patients at the initial ED visit is imperative. We examine the management and prescribing practices for ED patients with new-onset AF.

Methods

- This was a retrospective chart review study, pre-implementation of a clinical decision support tool.
- Electronic health record (EHR) data was collected from three enrolling urban EDs—an academic tertiary care center and two community hospitals.
- Patients were included if they had a new primary diagnosis of AF or paroxysmal AF during an ED visit between January 2020 to January 2022 and >1yr of follow-up data, age >17 years, and no OAC (< 1yr) from ED visit.
- Excluded patients at high-bleeding risk:
  - History of valvular disease
  - Pregnancy
  - Severe liver or kidney disease
  - Admitted to hospital
  - Major surgery within 72 hours of ED visit, and recent brain, eye, or spinal cord injury.

Methods cont.

- Eight trained chart reviewers abstracted the EHR data using a standardized chart abstraction guide.
- Data were analyzed using descriptive statistics.
- Associations between OAC prescribing by site and ED return were tested using Fisher's test.

Results

- 325 patients met inclusion criteria of the 2,597 diagnosed with AF
- 44% (n=141) were diagnosed with new-onset AF and 46% (n=149) with paroxysmal AF
- Providers prescribed or adjusted stroke prophylaxis for 42% (n=135) of patients
- Of the included patients, 24% (n=78) returned to the ED in the year following their initial visit, of which 94% (n=73) returned for recurrent AF and 4% (n=3) for a complication related to OAC
- There was no significant association between an OAC prescription and ED returns visits (p=0.43).

Characteristic (n, %)	Overall (n=325, 100%)
Age (years), mean (SD)	64 (16)
Race: White Black Asian Other/Multi	267 (82) 13 (4) 7 (2) 38(12)
Hispanic Ethnicity	18 (6)

| Site	Total (n=325)	OAC Prescribing Rate (n=135, 42%)	No OAC Prescribed (n=190, 58%)	Returned to ED within 1-year (n=78, 24%)	P-value
OHSU (Academic)	88 (27)	48 (35)	40 (21)	23 (29)	0.0059*
HMC (Community)	95 (30)	40 (30)	55 (29)	17 (22)	
AHP (Community)	138 (43)	47 (35)	95 (50)	38 (49)	

*Fisher's exact test of prescribing rate by site

Limitations

- Cases limited to primary diagnosis of AF at time of ED discharge
- Small sample size

Conclusions

- In our pre-implementation data, the majority of patients did not receive an OAC, with a significantly lower rate in a community setting.
- An intervention, such as increased guidance using a CDS tool, may increase guideline adherence at different practice locations and improve the long-term clinical outcomes of AF patients.
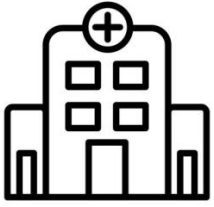
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