

Management of Rapid AF in Bendigo ED

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Introduction

- AF is the most common arrhythmia treated in ED.
- Many cases of recent onset AF can be managed in ED without the need for hospital admission.
- Acute deterioration of chronic AF is usually due to an underlying medical condition.
- AF can have adverse impact on cardiac function and ADL's and increase stroke risk.

Quality improvement

- Emergency Care Improvement Initiative Clinical Network (ECIICN) and the Department of Health identified need to improve treatment of AF in ED.
- Our performance has been audited prior to the project and will be audited after the introduction of our pathway.

Aims of our quality improvement project

- Reduce variability in practice in treatment of RAF.
- Promote an evidence-based approach to pharmacotherapy.
- Promote formal assessment of thromboembolic risk (and the potential complications of anticoagulation).

Outcome measures of our quality improvement project

- Clear documentation of duration/ chronicity.
- Adherence to a standardized evidence based pathway.
- Documentation of CHADS 2 score.
- Documentation of an assessment of bleeding risk with anticoagulation.

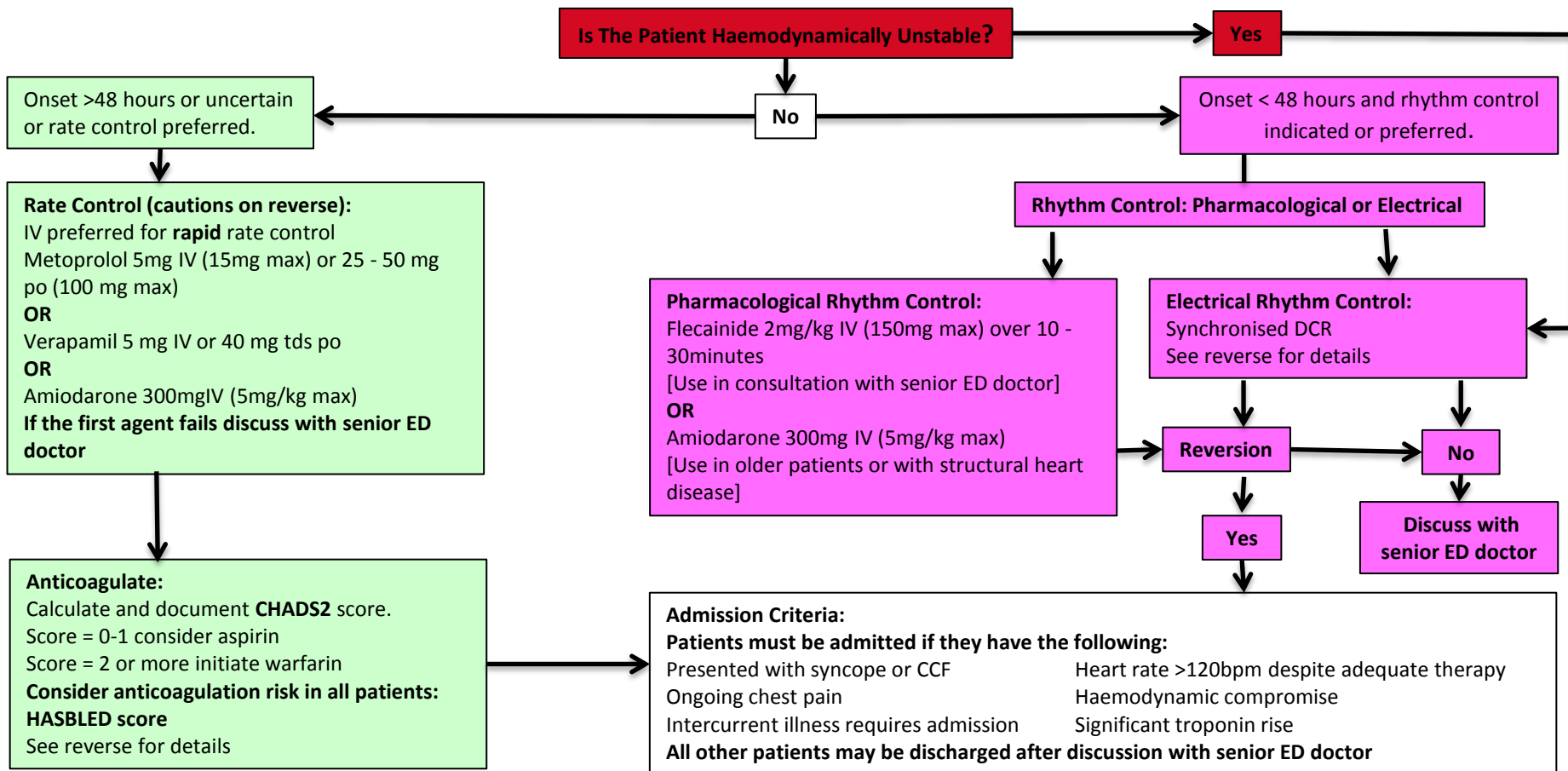
AF pathway

- Standardised evidence based management.
- Describes initial management steps and will cover uncomplicated patients.
- Involvement of senior doctor required if initial treatment is not successful to discuss further options (as there are many...)

Treatment of Rapid AF in the Bendigo Health ED.

For all patients presenting with rapid AF, evaluate for underlying cause and treat appropriately. If heart rate is still uncontrolled (>120bpm) consider using the following pathway.

All patients who present to ED with AF must have the following: ECG,UEC,FBE,TFT (if not checked in 6 months), add Trop if ischemic chest pain is present, CXR if cardiac failure is suspected.



Discharge Documentation:

All patients discharged must have documented:

Symptom chronicity and/or duration
CHADS2 score
Risk factors for anticoagulation

Warfarin or aspirin discharge plan
Discharge medications (see reverse for details)
Review by cardiology in clinic or private in 6 weeks (+/- TTE and holter monitor)

Provided patient with AF information leaflet

Anti-arrhythmics – cautions & contra-indications:

All may be negatively inotropic, especially in combination. Check for drug interactions.

Amiodarone: Sino-atrial block and conduction disturbances, severe hypotension, thyroid disease, CCF, pregnancy & breast-feeding.

Flecainide: Atrial flutter, CCF, structural heart disease, recent MI.

B-blockers: asthma / COPD, uncontrolled heart failure, sick sinus syndrome, heart block, hypotension, severe peripheral vascular disease

Ca channel blockers: heart failure, hypotension, sick sinus syndrome, heart block, AF with WPW, VT, pregnancy & breast-feeding

Instructions for synchronised DCR:

- Procedural sedation as per ED guideline

- >4 hours fasted unless unstable

- 150-200 joules

- If a patient is not fasted or resources are not available stable patients may be admitted to SOU or return the next morning if not compromised

CHADS2 Score:

Congestive heart failure (or left ventricular systolic dysfunction) = 1 point.

Hypertension (blood pressure consistently above 140/90 (or treated hypertension on medication) = 1 point.

Age \geq 75 years = 1 point.

Diabetes mellitus = 1 point.

Stroke/TIA/Thromboembolism = 2 points.

Anticoagulation risk:

The following may be useful when assessing bleeding risk for patients who are started on anticoagulation. Documentation is recommended in the discharge summary:

- Hypertension** (systolic Blood pressure $>$ 160mmHg)= 1 point

- Abnormal renal** (dialysis/transplant or creatinine $>$ 200) =1 point

- or liver function** (cirrhosis/bilirubin $>$ 2x normal w enzymes $>$ 3x normal)=1 point

- Stroke** (history of) =1 point

- Bleeding**=1point

- Labile INRs** ($<$ 6 in 10 INRs in therapeutic range)=1 point

- Elderly** (e.g. Age $>$ 65 years)= 1 point

- Drugs** -antiplatelet agents, NSAIDs= 1 point

- or alcohol** \geq 8 units per week) =1 point

A score $>$ 3 indicates significant bleeding risk if anti-coagulated. Discuss with senior ED doctor.

Also consider:

- Can the patient/family members manage the dosage changes required for warfarin?

- Does the patient engage in high risk activities? E.g. contact sports

- Is this patient at a high risk of falls, and if so, can the risk be minimised if anticoagulation is required?

Discharge Medications: +/- aspirin or warfarin (unless contraindicated)**For rhythm control:**

Patients receive no medication if first episode.

Amiodarone 200mg bd for 1 month then 200mg daily thereafter

or

Sotalol 40-80mg bd.

For rate control:

Metoprolol 25-50mg bd

or

Amiodarone 200mg bd for 1 month then 200mg daily thereafter.

Discussion

Management options:

- Stable vs. Unstable
- Rate vs. Rhythm control
- Electrical vs. Pharmacological rhythm control
- Anticoagulation

Unstable patients

- Life threatening: urgent DCR + sedation if required
- Non-life threatening:
 - New onset: DCR (preferred)
 - Chronic: urgent rate control
- Seek precipitant: ACS, structural heart disease and exclude VT.
- Failed DCR: Amiodarone loading, repeat DCR if still unstable, admit with Amiodarone infusion to CCU.

Rate vs. Rhythm control

- No long term benefit of rate over rhythm control (AFFIRM trial).
- One episode of AF increases possibility for further episodes.
- Rhythm control preferred in younger patients or in patients compromised by AF.
- Older patients less likely to maintain SR long term.
- Important to discuss pros and cons with patients and individualize interim management until cardiology r/v.

Electrical vs. Pharmacological rhythm control

- DCR – should be first line for young patient with new onset AF in the absence of high risk factors (mechanical valve, rheumatic heart disease or recent TIA/stroke).
- Flecainide preferred if DCR not available in or patients without structural heart disease (confirmed by history, examination and preferably TTE).
- Amiodarone – less effective in reversion, preferred in patients with structural heart disease or > 65.

Anticoagulation

- CHADS 2 score of 2 or more – increased risk of stroke: anticoagulation indicated.
- Assessment of risk benefit ratio before decision to initiate/ withhold warfarin.
- Warfarin indicated in delayed rhythm control strategy (3/52 before and 4/52 after DCR).
- New AF treated and reverted does not require anti-coagulation unless MechV/ RheuHD/ recurrent AF.

Further questions/discussion

AF resources

- ECIICN evidence summary
- ACCF/AHA evidence summary
- ARC guideline
- CCS – evidence summary
- Cost benefits of reversion to AF