Cardiovascular

- Evaluation and Management of Atrial Fibrillation

Evaluation and Management of Atrial Fibrillation

Purpose

- Establish a unified guideline for the diagnosis and treatment of atrial fibrillation (AF) in Acute Care Surgery patients.

Background/Definitions

- Primary AF: AF with no precipitating cause
- Secondary AF: AF precipitated by a secondary or reversible cause (e.g., volume overload, surgery, sepsis, etc. --most of your ICU patients)

Inclusion Criteria

- Patients with new onset atrial fibrillation.

Exclusion Criteria

- Patients with chronic atrial fibrillation.

Diagnostic Evaluation

- History:
  - previous history of arrhythmia?
  - currently on anticoagulation?
- Physical:
  - irregular heart rhythm
- Imaging/Labs/Tests:
  - ECG
  - BMP+Mg+Phos
  - Other labs at discretion of provider (CBC, blood cultures/infectious work-up, cardiac enzymes, etc)

Practice Recommendations for Management

- New-onset, secondary AF is an organ dysfunction that signals something is wrong--need to address *underlying cause* while seeking to control rate/rhythm.

- Helpful questions to guide initial approach of patient with AF:
  - 1) is the AF causing an immediate problem?
  - 2)why is AF happening now (is this primary or secondary AF)?
  - 3) should I worry about longer-term problems from the AF? ?

- Is the AF causing an immediate problem?
  - When to consider rhythm control first:
    - Emergent AF with severe decompensation:
      - hypotension (SBP<100 or <110 for patients 65 and older), acute heart failure, altered mental status, cardiac ischemia
      - if yes --> DCCV (direct current cardioversion)
      - consider pairing DCCV with anti-arrhythmic such as amiodarone to increase probability of longer-term success.
    - Non-emergent AF:
      - consider a rhythm control strategy first if you think the patient needs atrial kick (i.e. severe mitral stenosis, aortic stenosis) or cannot tolerate nodal blocker (Wolf Parkinson White Syndrome)
  - When to consider rate control first:
    - *Note: in most instances you can use rate control FIRST.*
    - Heart rate is higher than it would be with acute illness, but not immediately life threatening to require DCCV.
    - Patient has contraindications to anticoagulation.
    - Evidence to support a rate control strategy first during secondary AF: success of DCCV is low in secondary AF (as in ICU) --43% at 1 hr, 23% at 24 hrs remain in NSR.

- Why is AF happening now?
  - Fix electrolytes (magnesium is an effective rhythm control treatment).
  - Fix volume status.
  - Look for untreated infection.
  - Remove beta-agonists.

- Should I worry about long-term problems from the AF?
  - Arterial thromboembolism and AF recurrence are long-term concerns after new-onset AF in critically ill patients
    - 44% af AF recurrence in 1 year after new-onset AF in sepsis.
  - Cardiology follow-up (either inpatient or outpatient) for long-term rhythm monitoring and treatment plan should be considered.

Outcome Measures and Guideline Adherence

- AF (arrhythmia) is a PI filters for Trauma and Critical Care Surgery that is actively tracked/monitored.

Related Policies

Key Contributors

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References

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Supplemental Materials

- “Etiology of Atrial Fibrillation” schematic.