How good is your local Anticoagulation Clinic? Audit of time in therapeutic range of patients discharged on oral anticoagulation therapy.

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SCTS 2011
Warfarin

- Half life 40 hours
- Duration 2-5 days
- Steady state takes about 1 week

- AF
- Mechanical valves
Factors affecting dose / INR

• Age/Gender
• Genetic
• Blood type
• Diet/alcohol/smoking
• Drug interactions
• Impaired liver function/renal disease/hyperthyroidism
How monitored?

- GP
- Anticoagulation clinics
- Self testing
Objectives

• To analyse the mechanisms by which our patients were monitored and their time in therapeutic range (TTR)

• TTR is an established quality indicator for anticoagulation control (ACCP)
Why? - Risks

- Narrow therapeutic range
- Bleeding
- Thromboembolic
Metaanalysis - AF

- INR<2 OR 3.3 Ischaemic events (p<0.05)
- INR>3 OR 2.34 Major Bleeds (p>0.05)
- INR>4 OR 4 Major Bleeds (p<0.05)

Reynolds Chest 2004
Palareti Lancet 1996
Merli J Thromb 2009H
Hyleck NEJM 2003
Admission rate as a function of INR

JonesHeart 2005
What % TTR to be of benefit?

- AF
- TTR 65% for benefit of anticoagulation over antiplatelet therapy

Connolly Circulation 2008
Method

• Retrospective analysis
• 1\textsuperscript{st} 6 months post discharge
• Warfarin
• Mech valve or AF
• Time in Therapeutic Range (TTR)
Results - local GP led service

- n = 30
  
  AF 7
  Mechanical valve 23
  Age 71 (41-79)
  TTR (median %) 53 (18-71)
  TTR AF (median %) 50 (29-61)
  Haem/Thrombosis 0
Comparison of GP vs anticoagulation clinic

![Comparison of GP vs anticoagulation clinic](image)
Comparison with previous literature

• Median TTR for patients on warfarin = 63%

Walraven Chest 2006
Conclusion

Inadequate control once discharged
Self monitoring

- Significant reduction in T-E events and haemorrhage
- Not feasible in all patients
- Early Self Controlled Anticoagulation Trial

Convenient Compliance Decreased clinic time
Heneghan Lancet 2006
Koertke Circulation 2003
Other agents

- Stable pharmacokinetics
- Lower risks of bleeding
- Safety profiles
- Fixed dosing regimens
- Factor Xa
- Thrombin
Dabigatran

• Phase 2 and 3 trials
• RE-LY study – equivalent to warfarin in AF
• Rivaroxaban
• Oral Factor Xa inhibitor
• Phase 3 trials

• Apixaban
American College of Chest Physicians Consensus

• “Physicians who manage oral anticoagulation therapy [should] do so in a systematic and coordinated fashion, incorporating patient education, systematic INR testing, tracking, follow up, and good patient communication of dosing and results”.

• TTR
What next

- Continue to liaise with clinics in community
- Explore self monitoring (Point of Care Monitors)
- Newer agents