Using telemetry to determine who (with PAF) should be anticoagulated

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Disclaimer

• By the time I speak in this program, everything I might say on this topic will have already been said.
“With PAF”

• Maybe “Permanent AF” has a clear meaning, but criteria for intermittent AF seems arbitrary.
  • What is the distribution of times between AF episodes? Is the distribution multimodal?
  • What is the distribution of times in AF during episodes? Is that distribution multimodal? How correlated are the times between and in AF episodes?
  • How does “past performance predict future returns”?

• Telemetry offers an opportunity to obtain better characterization of the disease and a more defensible parsing into syndromes.
Towards predicting risk

• Could use telemetry data to characterize stroke risk as a function of time between or in AF episodes.
• Is stroke risk mostly related to termination of AF?
• How long does my AF episode need to be before I form clot in my atrium?
Disease model for treatment

• With a proper disease model, one should be able to predict risks and benefits of treatment
  • Possibly adjusting intensity of anticoagulation based upon risk
• With the model and permanent telemetry in a patient
  • Possibly starting and stopping anticoagulation as indicated by the rhythm.
  • Reduce risks of ICH and other bleeding
• With widespread telemetry in the elderly
  • Probably eradicate cryptogenic embolic stroke
Modeling requires data

• Telemetry device manufacturers (plenty of incentive) should consider developing a registry for telemetry data

• Follow-up?
  • Piggyback onto future AF studies
  • Passive surveillance for events might suffice. Registry would need personal information to make this feasible.