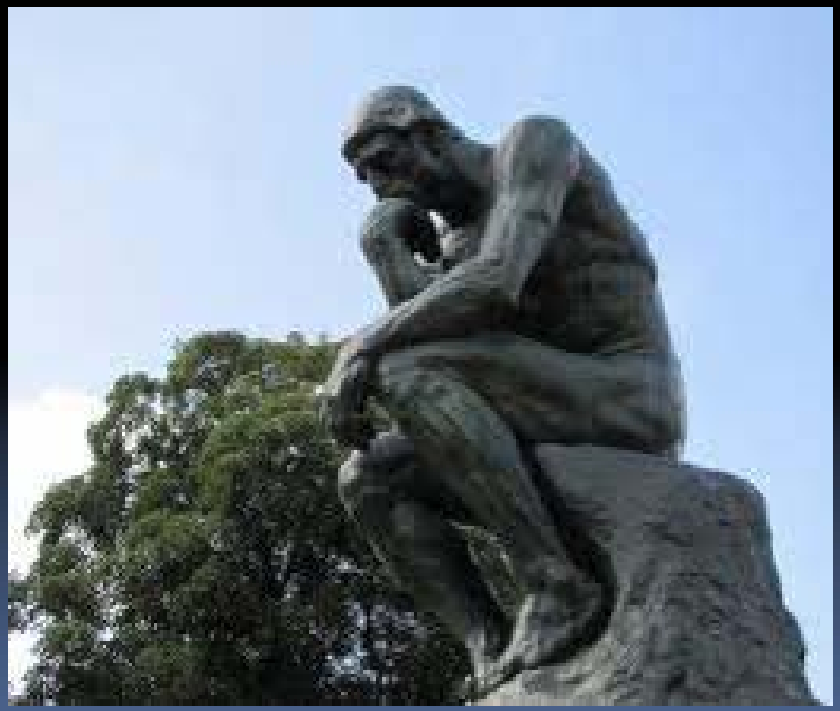
CARDIOLOGY OFFICE CONUNDRUMS



Atrial Fibrillation Thromboemboli/stroke prevention

- When to use New Anticoagulant Agents?
- Dabigatran (Pradaxa)
- Rivaroxaban (Xarelto)
- Apixaban*
- Edoxaban*

* Awaiting FDA approval

Typical Conundrum

A.F. 68yo h/o Hypertension routine EKG shows Atrial fibrillation @ 80.No symptoms.

Daily 2mi walk now limited by hip arthritis-Motrin

PH- Carotid U/S for dizziness 50% RC lesion

No MI,DM,bleeding hx. Normal renal and hepatic function.

Meds- Atenolol 100 mg/d, ASA 81mg/d, Motrin 200mg/d.

FH- Mother had atrial fib and died of CVA.

Social- 1 glass of wine/night, no smoking.

Atrial Fibrillation Evaluation

1. Evaluate for associated structural heart disease
2. Management of cardiac and arrhythmia risk factors
3. Decision regarding rate or rhythm control
4. **Choice of Anticoagulant**

STROKE RISK-CHADS$_2$

- **C**ONGESTIVE HEART FAILURE(SYMPTOMS AND IMPAIRED EF) 1
- **H**YPERTENSION 1
- **A**GE > 75 1
- **D**IABETES 1
- **S**TROKE 2

- *?Effect of treatment, Protienuria/renal disease, Hyperthyroidism*

Yearly Stroke Risk per CHADS Score

Chads Score	% Stroke risk /year
0	1.9
1	2.8
2	4.0
3	5.9
4	8.5
5	12.5
6	18.2

High risk > 2

Consider CHADSVASc

- CHF 1
- HYPERTENSION 1
- AGE > 75 2
- DIABETES 1
- STROKE 2
- VASCULAR DISEASE (MI, PVD) 1
- AGE 65-75 1
- SEX (FEMALE) 1

(low risk-0, intermediate-1, high >2)

Yearly $CHADSVASc$ Stroke risk

Score	% stroke/year
0	0
1	1.3
2	2.2
3	3.2
4	4.0
5	6.7
6	9.8
7	9.6
8	6.7
9	15.2

Risks of Anticoagulation-Bleeding

HASBLED-Score

Hypertension	1
Abn liver/renal function	1-2
Stroke	1
Bleeding history	1
Labile INR	1
Elderly	1
Drugs/ETOH	1-2

High risk >3

OTHER

- Fall risk
- Frailty

Mrs A.F. – risk analysis

- C**H**ADS-1 >> ASA
- C**H**AD**VAS**-4 >> WARFARIN/EQUIVALENT
- **H**ASBLE**D**-2

Do I Use a New Agent?

- Advantages over Warfarin

1. No INR blood test to monitor drug levels
2. No significant interaction with foods, most other drugs.
3. Trial trends towards better stroke protection, less bleeding (particularly intracranial) and perhaps mortality. RELY, ROCKET-AF, ARISTOTLE.

THE DARK SIDE

1.Cost to the patient.

2.It's a new drug!!

3.Lack of comparative data between agents

-Populations studied in Trials quite different.

-In ROCKET-AF (rivaroxaban)warfarin comparison group had poor INR control .

4.Renal function and the older patient. Not to use if GFR 15-30.

5.Possible increased risk in the non-compliant patient due to shorter half life of drugs.

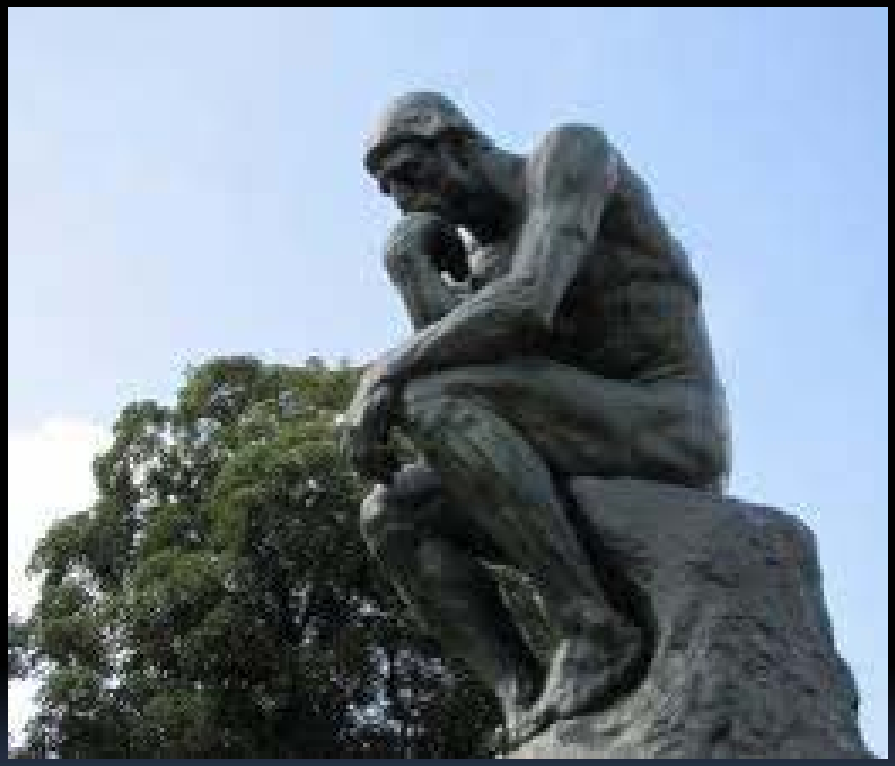
6.Inability to reverse anticoagulant effect quickly. (intracranial bleed risk).

-Intracranial bleed risk reduced by 2-3X (0.3%).

-No reversal of effect by administration of any clotting factors. Fortunately short ½ life of dabigatran.

-Theoretically dialysis might work for dabigatran–low protein binding- not rivaroxaban

-Source of a current flurry of Class action Lawsuits.



THE SOLUTION?
CLINICAL JUDGEMENT

References

Granger CB et al, Apixaban versus warfarinin patients with atrial fibrillation. NEJM 2011;356:981-992.

Connolly SJ. et al Dabigatran versus warfarin in patients with atrial fibrillation. NEJM 2009; 361:1139-51.

Patel MR,et al, Rivaroxaban versus warfarin in non valvular atrial fibrillation.NEJM 2011; 365:83-91.

Camm,JA et al, European Society of cardiology guidelines for the management of atrial fibrillation. European Heart Journal 2010 31, 2369-2429.

Fuster V et al, ACC/AHA/ESC guidelines for the management of patients with atrial fibrillation. Circulation 114 2006, 257-354.

Wann,SL et al, 2011 ACC/AHA/HRS focused update on the management of patients with atrial fibrillation (update on Dabigatran).JACC, 57:11

Olesen,JB et al, Validation of risk stratification scheme for predicting stroke and thromboembolism in patients with atrial fibrillation: Nationwide cohort study. BMJ, 2011:342: d124.

Apostolakis,S et al, Performance of the HEMORR2HAGES,ATRIA, and HAS-BLED bleeding risk-predictions cores in patients with atrial fibrillation undergoing anticoagulation. JACC, 60, 9;861-867.