

WHY WE ARE LOOKING FOR NEWER ANTICOAGULANTS?

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Role of Anticoagulants in Atrial Fibrillation

- ❖ Patients with AF have a 5-fold increased risk of stroke, and it is estimated that 15% to 20% of all strokes are attributable to AF. Moreover, death and disability from stroke complicating AF are particularly high.
- ❖ The role of anticoagulants in preventing thromboembolism in patients with atrial fibrillation is undoubtedly vital .

Role of Anticoagulants in Atrial Fibrillation

- ❖ Physicians around the world have been prescribing warfarin as an oral anticoagulant for last 5 or 6 decades.
- ❖ INR adjusted Warfarin results in a two-thirds reduction in stroke in patients with AF, on the basis of a meta-analysis of the randomized controlled trials.

High risk patients who need the anticoagulants most

- ❖ patients with AF having the feature(s) of CHADS are in high risk group.
- ❖ CHADS is the acronym for
 - Congestive heart failure,
 - Hypertension,
 - Age 75 years,
 - Diabetes mellitus, and
 - Prior **S**troke or transient ischemic attack

But.....

- But warfarin has some drawbacks. It causes catastrophic side effects in significant number of patients.
- Scientists around the world have been looking for a suitable alternative to this cheap and effective drug for the last one decade.

Causology for this Search

- warfarin is grossly underused. In a relatively healthy insured population, 55% of eligible patients with AF received warfarin, and the rates dropped off substantially in the elderly, who have the greatest need.
- In addition, not only is warfarin underused, but when it is used, it is used suboptimally.

Causology for this search

International normalized ratios (INRs) were in the target range of 2.0 to 3.0 only 58% of the time. The reasons are-

1. The pharmacological properties of the drug.
2. The unpredictable anticoagulant effect.
3. The genetic variation of the drug metabolism.
4. Multiple drug and food interactions.

Causology of this search

- This drug has very narrow therapeutic index. As such regular, meticulous and inconvenient monitoring is required. The cheap drug becomes expensive if the monitoring cost is also included.

Side Effects

- Major bleeding.
- Major bleeding means massive GI bleeding, haemorrhagic stroke etc.
- This catastrophe occurs in around 20% of the patients taking warfarin. It occurs even if the patient's INR is monitored and maintained tightly within 2-3.

- These are the reasons why scientists were looking for an alternative to warfarin.
- We are lucky enough scientists could invent some safe, effective drugs.
- The safety and efficacy of these drugs are justified by evidences like large randomized controlled trials, meta-analysis etc.

THANK YOU