

How do Warfarin Therapy and Aspirin Therapy Compare in the Treatment of Atrial Fibrillation, Congestive Heart Failure and Stroke?

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Hypothesis

- The purpose of this study is to determine whether warfarin therapy or aspirin therapy is more beneficial in treating atrial fibrillation, congestive heart failure and stroke. Atrial fibrillation and congestive heart failure are both disorders in which the heart does not contract properly, causing blood to stay in the heart and clot, which can ultimately travel out of the heart, to the brain, and lead to a stroke.
- Warfarin and aspirin act to inhibit certain clotting factors in the blood to ultimately "thin the blood," and prevent clots from forming and growing in certain populations of patients with atrial fibrillation, congestive heart failure and stroke.
- Warfarin therapy will be proven in the studies researched to be superior to aspirin therapy in the treatment of atrial fibrillation, congestive heart failure, and the prevention of stroke.
- However, some studies will debate that the difficulty of managing warfarin therapy and the increased risk of hemorrhaging will outweigh its benefits, therefore, making aspirin the most beneficial treatment route.



Methodology

- Results from 7 clinical trials which compared the effectiveness of warfarin and aspirin therapy in how they prevent stroke and treat atrial fibrillation and congestive heart failure were compared against each other. The SPAF III trial only monitored aspirin therapy, then compared their results to previous warfarin trial results. This makes a total of 8 trials reviewed.
- The results and numerical values were documented, and from these results a conclusion was drawn. Each disorder is represented by one chart on this poster board.
- Information obtained is strictly from previously conducted studies. There was no direct patient contact at anytime.

Data

BAFTA-Birmingham Atrial Fibrillation Treatment of the Aged Study

- Enrolled 973 patients with AF over the age of 75 years for 3 years.
- INR range was 2.0-3.0, aspirin dose was 75mg daily

SPAF II- Stroke Prevention in Atrial Fibrillation Phase II

- Enrolled 715 patients age 75 years or less and 385 patients older than 75.
- Compared warfarin with aspirin 325 mg daily for prevention of ischemic stroke.
- INR range was 2.0-4.5, aspirin dose was 325 mg daily

SPAF III- Stroke Prevention in Atrial Fibrillation Phase III

- Enrolled 892 patients monitored over two years.
- The patients on which the study was conducted did not have a prosthetic heart valve, mitral stenosis, impaired LV function, active hypertension, prior thromboembolism, and none were women over the age of 75 (the primary risk factors). The patients could have had a history of hypertension and cardiovascular disease.
- Monitored aspirin only-325 mg daily.

WATCH- Warfarin and Antiplatelet Therapy in Chronic Heart Failure

- Enrolled 1587 patients.
- Mean age was 63 years, and 85% of the subjects were male.
- INR range was 2.5-3.0, aspirin dose was 182mg daily

WASH-Warfarin/Aspirin Study in Heart Failure

- The study compared no antithrombotic therapy, aspirin (300 mg/day), and warfarin (target INR ratio 2.5).
- Patients with heart failure and left ventricular systolic dysfunction requiring diuretic therapy.

"Anticoagulation in Congestive Heart Failure"

- Cohort of studies involving SOLVD, NSESS, CONSENSUS, SAVE, PROMISE, V-HeFT, PRIME-II, WASH AND WATCH.
- Various number of populations, doses and INR ranges.

WARSS-Warfarin-Aspirin Recurrent Stroke Study

- A review of 4 randomized controlled trials (RCT's) of oral anticoagulants versus aspirin in 1870 patients who had a previous transient ischemic stroke or a minor stroke.
- INR range was 3.0-4.5 for two of the studies, 2.1-3.6 for the other two.

"Aspirin as Good as Warfarin for Some Stroke Prevention"

- Enrolled 569 people diagnosed with brain artery blockage after they had full-blown strokes or "mini strokes."
- INR range 2.0-3.0, aspirin dose 1,300mg daily.

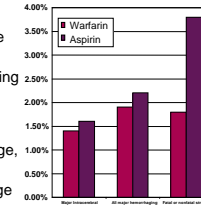
Results

BAFTA- Atrial Fibrillation

The benefit of warfarin did not come with a much higher risk of hemorrhaging. The risk was about the same in both groups.

The elderly are more at risk for bleeding episodes, however BAFTA stated: "Even into the highest age groups, warfarin was still very effective, there was no increased bleeding risk with age, and it was clearly better than aspirin."

Warfarin might have had an advantage because blood pressure in this study was mostly kept under control.

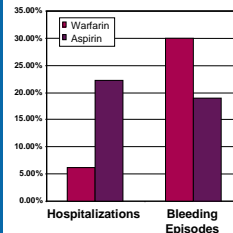


The hypothesis of WATCH was that anticoagulation therapy with warfarin is superior to antiplatelet therapy with aspirin in preventing cardiac events in CHF patients.

Berry Massie, MD, noted that aspirin may have adverse effects due to interference with angiotensin-converting enzyme (ACE) inhibitors, which are commonly used in heart failure patients.

Results showed a strong trend favoring warfarin in the treatment of nonfatal stroke.

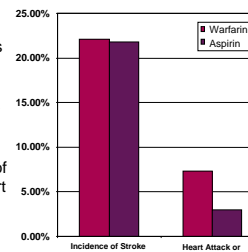
WATCH- Congestive Heart Failure



"Aspirin as Good as Warfarin for Some Stroke Prevention"- Stroke

The study predicted that large doses of aspirin (1,300mg) are as effective as warfarin in preventing stroke in certain populations of people with partial blockages of the brain arteries.

The trial ended before its time because the incidence of major problems such as heart attack or sudden death was much higher for patients taking warfarin.



Results Continued

The results are broken down into the three disorder categories:

- Atrial Fibrillation**
 - BAFTA, SPAF II, both had results which favored warfarin therapy for atrial fibrillation. Variables which impacted the results included age and whether or not the patients had any of the primary risk factors: A prosthetic heart valve, mitral stenosis, impaired LV function, active hypertension, and prior stroke. The SPAF II end-of-the- study stroke rate was 4.3% with aspirin and 4.6% with warfarin. SPAF III stated that, "Given the low incidence of stroke on aspirin however, and the significant risk of hemorrhage with warfarin, the overall benefit is not likely to be large."
- Congestive Heart Failure**
 - WATCH showed no significant difference in regard to heart attack, death and non fatal stroke. WASH showed an 8% benefit towards warfarin in those three aspects. Both studies showed more frequent hospitalizations due to aspirin and more frequent bleeding episodes due to warfarin. The article "Anticoagulation in Congestive Heart Failure," which summarized several studies, concluded that Aspirin use was associated with more hospitalization for heart failure but less major bleeding than warfarin.
- Stroke**
 - WARSS showed that long-term oral anticoagulant therapy with a high international normalized ratio (INR, 3.0 to 4.5) caused a significantly higher rate of recurrent serious vascular events. No difference in the rate of ischemic stroke was found. The article "Aspirin as Good as Warfarin for Some Stroke Prevention," states that large doses of aspirin (1,300mg daily) are as effective as managed warfarin therapy. The trial ended before its anticipated end date because the incidence of major problems such as heart attack or sudden death was much higher for patients taking warfarin. 3% of patients taking aspirin experienced heart attack or sudden death within the 1.8 year follow-up, compared to 7.3% of patients taking warfarin.

Conclusions & Recommendations

In conclusion, most of the studies recommend warfarin therapy over aspirin therapy for the treatment of atrial fibrillation, congestive heart failure and stroke. However, in low risk patients, aspirin therapy was found to be sufficient in treating the three disorders. Warfarin therapy was found to have a higher risk of bleeding episodes or hemorrhaging than aspirin in all three disorder groups, however, aspirin therapy was found to be responsible for more hospitalizations due to cardiovascular events in heart failure patients. Ultimately, the doctor must review the patient's health history and decide the proper treatment regimen.