



MEDICAL
GROUP

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Diplomates American Board of Internal Medicine & Cardiovascular Diseases
A medical practice dedicated to the prevention, diagnosis, and treatment of heart disease.

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FROM: The Doctors' Desk.

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Pradaxa (dabigatran): A new drug for the treatment of atrial fibrillation. Is it a reasonable alternative to Coumadin (warfarin)?

Atrial fibrillation is a heart rhythm disturbance that affects up to 3% of the adult population but is found more frequently as people age. It interferes with the orderly contraction of the atria or upper chambers of the heart. When the atria fibrillate, blood stagnates and clots can form and sail in the blood stream from the left atrium of the heart to the brain causing a stroke. In patients with atrial fibrillation, the older someone is or the more abnormal heart function is, the higher the risk of clots forming.

Coumadin (warfarin) is the current standard treatment to prevent clots from forming in the left atrium. Warfarin works by interfering with the liver's ability to make proteins that allow blood to clot. Of course, under normal circumstances, blood clotting is a good thing, because it stops bleeding if we are injured. However, clotting in the heart is a bad thing as it can lead to a stroke. Coumadin is administered in doses strong enough to inhibit clots from forming in the atrium and not too strong to cause dangerous bleeding. The therapeutic window (blood thin enough not to clot in the atrium and not too thin to cause harm) is small and can vary widely from one patient to the next. The effect of Coumadin is measured by a blood test called the INR (international normalized ratio). Patients receiving Coumadin must have the INR test regularly (usually once a month or so once they are otherwise on a stable dose). Depending on the INR, we adjust the Coumadin dose. Many different medications and foods can interfere with Coumadin's effect. Some patients have been on Coumadin for many years with no significant changes in their dosage and no significant bleeding problems. Some patients have to come in to the office very frequently to have their dosage changed or monitored.

The FDA recently approved Pradaxa (dabigatran) for the prevention of stroke from atrial fibrillation. Pradaxa interferes with the functioning of already formed clotting proteins. The net effect is the same as Coumadin. In one trial, Pradaxa, at the highest dose, was found to be slightly more effective than Coumadin in preventing stroke caused by atrial fibrillation in a very select group of patients. The overall bleeding risk was similar but the risk of serious bleeding in the brain was slightly lower with the higher dose of Pradaxa. At the lower dose of Pradaxa, the risk of stroke was similar with slightly less overall bleeding rates. Pradaxa has been used in Canada since 2008 to prevent leg clots after knee replacement surgery. Coumadin has been used for preventing strokes in patients with atrial fibrillation and treating patients with clots in the leg veins (deep venous thrombosis or DVT) or that have travelled to the lungs (pulmonary embolism) for nearly five decades. Pradaxa does not require blood testing but has to be taken twice a day while Coumadin is taken once a day. Pradaxa does not appear to require dosage adjustments based on what type of diet one eats or other medications one takes

Coumadin costs approximately \$50 per month; warfarin \$14 per month and Pradaxa a little over \$200 per month. There is no generic form of Pradaxa available at this time.

If one has atrial fibrillation and is a candidate for a blood thinner, what is the right choice? We encourage our patients to discuss these and any other questions they have.

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Pradaxa vs. Coumadin

	<u>Coumadin</u>	<u>Pradaxa</u>
Stroke rate	1.71% per year	1.11% - 1.54% per year*
Bleeding	3.57% per year	2.87% - 3.32% per year*
Blood testing	monthly (on average)	none
Cost	\$14 - \$50/month	\$200/month
Medical experience	decades/extensive	2 years/limited
Dosing	once a day	twice a day

*dose dependent

Many other factors in an individual need to be considered and would include that if someone has been on Coumadin for a long time with minimal or no significant problems or side effects, it might be prudent to "leave well enough alone" ("if it ain't broke, don't fix it"). In addition, there perhaps are slightly more gastrointestinal side effects with Pradaxa compared to Coumadin.

Please note that the above is provided for general information only and should not be considered as specific medical advice for an individual. It is not intended to provide medical advice, and should not be relied upon as a substitute for consultations with qualified health professionals who are familiar with your individual medical needs and condition.

If you have questions about blood thinners in atrial fibrillation please call our office for an appointment with one of our cardiologists.