Home monitoring of INR equal but not superior to clinic testing

Warfarin anticoagulation reduces thromboembolic complications in patients with atrial fibrillation or mechanical heart valves, but effective management is complex, and the international normalized ratio (INR) is often outside the target range. As compared with venous plasma testing, point-of-care INR measuring devices allow greater testing frequency and patient involvement and may improve clinical outcomes.

We randomly assigned 2922 patients who were taking warfarin because of mechanical heart valves or atrial fibrillation and who were competent in the use of point-of-care INR devices to either weekly self-testing at home or monthly high-quality testing in a clinic. The primary end point was the time to a first major event (stroke, major bleeding episode, or death).

The patients were followed for 2.0 to 4.75 years, for a total of 8730 patient-years of follow-up. The time to the first primary event was not significantly longer in the self-testing group than in the clinic-testing group (hazard ratio, 0.88; 95% confidence interval, 0.75 to 1.04; P=0.14). The two groups had similar rates of clinical outcomes except that the self-testing group reported more minor bleeding episodes. Over the entire follow-up period, the self-testing group had a small but significant improvement in the percentage of time during which the INR was within the target range (absolute difference between groups, 3.8 percentage points; P<0.001). At 2 years of follow-up, the self-testing group also had a small but significant improvement in patient satisfaction with anticoagulation therapy (P=0.002) and quality of life (P<0.001).

As compared with monthly high-quality clinic testing, weekly self-testing did not delay the time to a first stroke, major bleeding episode, or death to the extent suggested by prior studies. These results do not support the superiority of self-testing over clinic testing in reducing the risk of stroke, major bleeding episode, and death among patients taking warfarin therapy. (Funded by the Department of Veterans Affairs Cooperative Studies Program; ClinicalTrials.gov number, NCT00032591.)

Matchar DB, Jacobson A, Dolor R, et al. Effect of Home Testing of International Normalized Ratio on Clinical Events. *New England Journal of Medicine*.363(17):1608-1620.

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