

Does Cognitive Impairment Compromise Anticoagulation Control in Elderly Patients?

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Abstract

The greater prevalence of dementia resulting from an increase in longevity has become a significant public health issue. Patients receiving long-term anticoagulation face risks in excess of those in the population at large, in that reasons for anticoagulation, such as atrial fibrillation, are themselves associated with cognitive impairment. Some level of cognitive impairment has been reported in over 70% of patients with atrial fibrillation. Additionally, atrial fibrillation affects 5% of women and 6% of men aged 65 years and older, leading to an increased risk for reduced cerebral blood flow, “silent” infarcts, ischemic stroke, and ultimately permanent impairment or death. While ideally anticoagulation for well-chosen patients could help to prevent at least some of the observed cognitive impairments, cost analysis already shows that treatment of a single elderly stroke patient costs 4 times more than initiating and monitoring anticoagulation therapy for 10 years.

In older patients no studies have been performed examining the relationship between cognitive impairment and ability to reach and maintain target International Ratio (INR) goals. Several studies have reported an increased prevalence of cognitive impairment in hospitalized or long term care populations receiving services from pharmacy-managed anticoagulation clinics. The success of anticoagulation therapy depends upon the patient’s ability to properly follow directions and maintain medication adherence. Anticoagulant dosing is often complex because of changes required to achieve target INR. Complex schedules impose significant cognitive demands on patients, with a risk of non-adherence with therapy that can result in suboptimal INR control. Undetected cognitive impairment is therefore an important potential determinant of INR control.

The hypothesis underlying this study is that prevalent cognitive impairment in community-dwelling elders affects patients’ ability to achieve and maintain target INR goals in a pharmacy-managed anticoagulation clinic. A validated and rapid screening tool for cognitive impairment is the Mini-Cog™. The Mini-Cog™ is a validated and rapid cognitive screening tool that is easy to use, requires minimal time to administer (<5 minutes), can be administered by nonprofessionals and is relatively unbiased by education level, ethnicity, or language.

A sample of at least 2300 anticoagulation patients aged 60 years and older will participate in the study. We have already implemented Mini-Cog™ screening as standard practice in the clinic as a quality improvement initiative. Mini-Cog™ scores and data from each participant’s previous 6 months of services with the anticoagulation clinic will be recorded and analyzed. The relationship between Mini-Cog™ score and achievement and maintenance of their target INR over the previous 6 months will be determined.