

Preface

## Thromboembolic Disease and Antithrombotic Agents in the Elderly



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*Guest Editor*

There has been an explosion in the study of thromboembolic disorders heralded by the development of new antiplatelet and anticoagulant agents. Venous and arterial thromboembolic diseases have historically been considered clinically silent until an event associated with considerable morbidity or mortality occurs. Elucidation of the role of antiplatelet and anticoagulant agents in the pathophysiology of clotting and disease in both the venous and arterial systems has led to important opportunities for prevention, and advances in the treatment of thromboembolic disease.

Increased longevity caused by a reduction in cardiovascular disease and other factors has led to a rapid demographic expansion of the adult population over the age of 65, particularly those over the age of 85. Age alone has emerged as one of the key risk factors for venous thromboembolic disease, encompassing deep and superficial venous thrombosis and pulmonary embolism. Age is also highly associated with arterial thromboembolic disease, such as myocardial infarction and coronary artery disease, ischemic stroke and that associated with atrial fibrillation, and peripheral arterial disease. In addition to an increase in risk, prevalence, and mortality of thromboembolic disease in older adults, the morbidity of events is increased. This issue of the *Clinics in Geriatric Medicine* is dedicated to a discussion of the identification, prevention, and management of both venous

and arterial thromboembolic disease in older adults with the goal of at least improving morbidity, and perhaps delaying mortality for this population.

A discussion is not complete, however, without a careful examination of the efficacy and risk of antithrombotic agents in this population. Both antiplatelet and anticoagulant agents are associated with an increased risk of bleeding associated with age alone. It is essential that health care providers understand the pharmacology of these agents, be familiar with estimates of their efficacy in clinical trials and practice, and be adept at their management.

The identification of risk factors associated with deep venous thrombosis has altered the view of venous thromboembolic disease from a cause of unexpected mortality to one requiring anticipation and prevention, particularly in patients undergoing surgery or those with underlying malignancies. The development of institutional guidelines for prevention of venous thromboembolic disease in the elderly is on the horizon. Patients with idiopathic deep venous thrombosis are now considered to have a chronic disease, transforming their management from an episodic treatment to consideration of lifelong anticoagulation. In addition, advances in the clinician's ability to determine pretest probability and apply that information to results from diagnostic testing, such as the D-dimer test and duplex ultrasonography of the leg, have improved decision-making around the diagnosis of deep venous thrombosis considerably. With the advent of low-molecular-weight heparins, prevention and treatment can be provided outside of the hospital, with important opportunities to improve care, cost, and outcomes.

The prevalence of arterial thromboembolic disease (stroke, myocardial infarction, and peripheral vascular disease) continues to plague the elderly. The functional and cognitive loss caused by disability from stroke, congestive heart failure, dementia, and vascular disease has a profound impact on quality of life. Understanding of the pathophysiology of disease and the efficacy and risk of antiplatelet agents, and anticoagulant agents, promises to provide considerable benefit to the population of older adults.

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