

Introduction

Osteoporosis is a worldwide concern affecting ~55% of Americans >50 years of age. Although 80% of those with osteoporosis are women, there are now ~2 million men with osteoporosis. This major public health threat is responsible for >1.5 million fractures per year of which >300,000 are hip fractures. Approximately 75,000 of these patients >50 years of age will die within 1 year of their fracture.¹

Osteoporotic fractures resulted in national expenditures of ~\$18 billion in 2002 and these costs continue to rise. Although office visits for osteoporosis have increased from 1.3 to 6.3 million in the past decade, more must be done to ensure early identification of at-risk individuals and early initiation of treatment, in an effort to reduce the incidence of vertebral and nonvertebral fractures. This issue of *Clinical Cornerstone* will discuss recent advances in the diagnosis and management of this disease.

The first article by Andrea Singer, MD, examines diagnostic and screening procedures for osteoporosis. Bone mineral density (BMD) scores for both men and women are examined and diagnostic criteria for specific populations are presented. Dr. Singer discusses alternatives to measuring BMD using dual x-ray absorptiometry such as quantitative computed tomography and quantitative ultrasound.

Carolyn Becker, MD, reviews the pathophysiology and clinical manifestations of osteoporosis. She discusses how low peak bone mass, excessive bone resorption, or inadequate bone formation can all lead to osteoporosis. A key cytokine RANKL (Receptor Activator of Nuclear

Factor- κ B Ligand) is defined and its role in bone resorption is explained. Deficiencies in calcium and vitamin D and the role of parathyroid hormone are explained.

Addressing the issue of osteoporosis in both men and women, Sydney L. Bonnick, MD, FACP, discusses gender-based risk factors for vertebral and nonvertebral fractures, diagnosis, and screening and treatment of osteoporosis. The bisphosphonates, the treatment of choice, are examined in terms of their efficacy in both men and women. Dr. Bonnick finalizes the discussion by looking at other treatment options in both men and women.

The last article of this issue by Jeffrey P. Levine, MD, MPH, examines the pharmacologic as well as nonpharmacologic interventions in the treatment of osteoporosis. He emphasizes the importance of compliance and persistence with therapy for all patients. Pharmacologic options, such as catabolic agents, bisphosphonates, estrogen therapy, raloxifene, salmon calcitonin, and the anabolic agent teriparatide, are all discussed.

We hope that this issue offers key clinical insights for the practicing physician and generates interest in further study.

Jeffrey P. Levine, MD, MPH
Guest Editor

REFERENCE

1. National Osteoporosis Foundation. Fast facts. Available at: <http://www.nof.org/osteoporosis/diseasefacts.htm>. Accessed August 15, 2006.